THE UNDERSTANDING OF RELIGION

BY

EDWIN TENNEY BREWSTER

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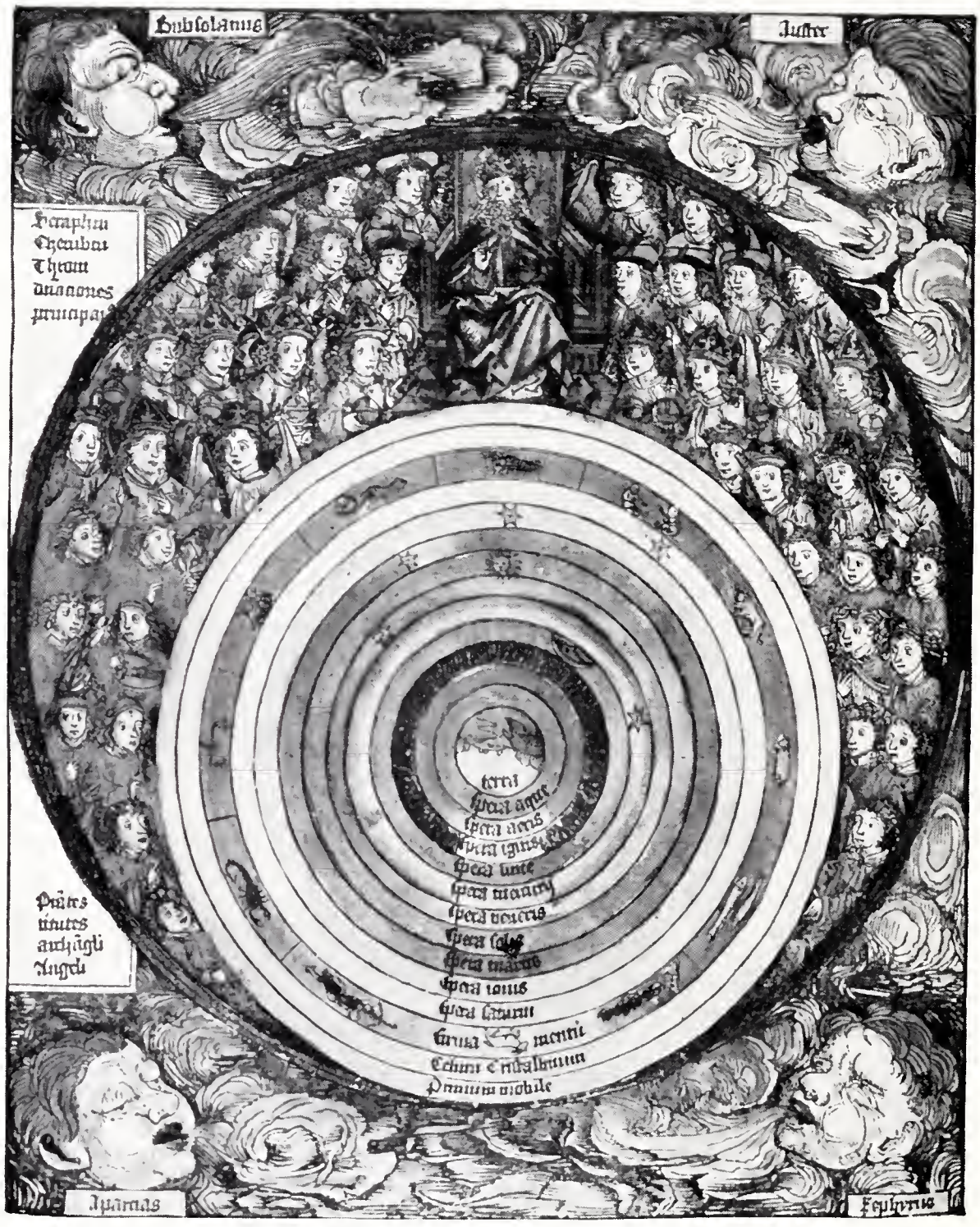

THE "PTOLEMAIC" UNIVERSE OF THE LATE MIDDLE AGES

At the center is the earth, surrounded by the three other elements — water, air, and fire. Outside these are, successively, the heavens of the Moon, Mercury, Venus, the Sun, Mars, Jupiter, and Saturn, the starry firmament with the twelve Zodiacal signs, the crystal sphere, and the *primum mobile*. Surrounding all, but eccentric toward the upper, inhabited side of the earth, is the Empyrean, where sits the Almighty, attended by nine ranks of celestial beings as listed at the left. At the corners are the four winds.

From the Nuremberg Chronicle (1493).

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WITH ILLUSTRATIONS

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PREFACE

If this book contained any theology, I should not have written it. I know nothing whatever about theology; nor have I, so far as I am aware, any opinion whatever on any strictly theological matter. But religion is, fortunately, a great deal more than theology.

Religion is, in fact, really a branch of Natural History. That is to say, it is one of those subjects on which any one of us may hope for some sound understanding merely by keeping his eyes open, and reflecting upon what he sees in the light of what other men have reported of their observations, precisely as one does with any other out-of-door matter.

Now it so happens that, for a third of a century or so, I have been engaged off and on in calling the attention of young persons and others to various aspects of rocks and hills and trees which otherwise they were, as a matter of fact, not noticing. I hope now, trusting to the same devices, to point out certain aspects of religion which, also as a matter of fact, too many people are, it seems to me, passing by on the other side. We of the older generation, moreover, who in the course of time have become more or less wonted to this unintelligible world, are apt to flatter ourselves that mere multitude of days brings

wisdom. We schoolmasters, in addition, do somewhat justify our existence by learning by dint of practice to take apart an obscure and complex matter, and to feed it out, easy end first.

It occurred to me, too, naturally enough, I think, that, as I found myself approaching the time of life beyond which men somewhat rarely correct erroneous views, it would be the part of wisdom for me to run over various of my long-standing opinions, and to make out how these relate themselves to present-day knowledge. I am, it chances, practiced in no other method of arriving at truth than the scientific; and I have attempted by that method to come to some understanding of the phenomena of religion which I observe around me. What I have noted, I have here set down for the benefit of other like-minded persons, either my contemporaries, or, as I hope, of younger men and women, who, emerging into a wider intellectual life than has been theirs, find themselves for the moment more or less at sea. I write as a layman, for other laymen. Possibly, nevertheless, an occasional cleric may be curious to know what his parishioners think about between sermons.

I have observed, as I have come into contact with a somewhat wide range of religious opinion, that a great many unscientific people are quite unnecessarily confused over matters which to the scientific seem perfectly straightforward. I

note also that many good people view with quite unnecessary alarm the "oppositions of science falsely so-called," for no better reason than that, having taken their scientific ideas at something like fourth hand, these are not seldom just about the reverse of those which scientific persons suppose themselves to entertain. On this matter I have touched, though somewhat more lightly, perhaps, than it deserves.

I am especially concerned, however, with that very considerable group, both of adults and of the young, who fail to see their way amid conflicting views, chiefly for the reason that they have no idea where either alternative comes from. A little knowledge of the history of ideas settles many disputes offhand. This seems to me to be conspicuously the case in the present-day controversy, among both Protestants and Roman Catholics, between the conservative and the "modernist" parties, some aspects of which lie in that middle ground between science and divinity, where a student of the natural order may venture an opinion. One point of my little volume is to offer a sort of itinerary in a portion of this field.

If I may judge at all from my own experience, a study of the sort which I have outlined should have two effects. One ought, in the first place, to come to see more accurately than he has just what is and what is not possible of belief in this

our modern world. In the second place, one ought, as a result, to gain a notably greater tolerance for opinions that differ from his own. After all, we are, each of us, dealing with vastly complicated, age-long problems. It is highly improbable that any of our present-day conclusions are final, or that the wisest of us believes more truth than error. On the other hand, most of those opinions which seem to us of the present age utterly fantastic and absurd, were each of them, in its day, sound and recent and inevitable. Men have said hard things of Sir Isaac Newton for clinging somewhat too long to his early theory concerning the nature of light — and now "the New Physics" goes back to Newton's view of light, while at the same time it questions Newtonian gravitation! To scoff at any serious opinion is not to have read history.

I am quite aware that in crowding such large topics into so small space, I have, in more instances than I should have liked, made my account of various matters a great deal too schematic. Any critic who cares to be nasty can undoubtedly play horse with me on several points. But the one thing that I am trying to do is to set up a guidepost that will send my reader to the libraries, there to run down the actual facts for himself. Whoso will do that need have no fear that he will go astray in any present-day confusion of opinion. So far as my reader finds

me in error, this should but add zest to his own search for truth.

Inevitably, in all these circumstances, some of those who open these pages are going to encounter an occasional idea to which they are not yet altogether used, and, on the other hand, they are likely also to miss a good deal that they expect to hear whenever religion is discussed. To such I can only say that information new to them will probably not in the end do them any special harm; while the old truths, already familiar, they can always add for themselves. Doubtless, I also should have said exactly the same thing if I had had more space.

The important matter nowadays in the sphere of religion, so far as this is a matter of taking thought, is that we shall all turn to and make up our minds exactly what we actually do believe, what the evidence is for each belief, and what is the reason for the particular form which our various opinions take in our own minds. Something of this I have attempted to do for certain special topics. For us all to do this, each for himself, throughout the whole range of Christian doctrine, would go far toward making straight the way of that "New Reformation" which our modern world sadly needs, and of which, as it seems to me, the signs are already manifest.

E. T. B.

ANDOVER, MASSACHUSETTS

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CHAPTER I

WHAT IS RELIGION?

We are all agreed that religion is a highly important matter. History is on that side. So, too, is common observation. And yet, oddly enough, we cannot at all agree as to exactly what is or is not "religion," nor what the word ought to mean, nor what the Romans meant when they said *religio*. Attempts at definition run all the way from visiting the fatherless and widows in their affliction and keeping one's self unspotted from the world, which is pure morality and not religion at all, to "the sum of all those motives which lead a man to the performance of those acts which he conceives intellectually to be his duty," from which all morality is expressly excluded. Neither form of words at all suggests actual religions as we see them under our eyes.

On the whole, probably, the best working definition is Matthew Arnold's oft-quoted, "morality touched with emotion." But there are so many highly moral persons whose joy in the

Lord is only of the faintest, and so many highly emotional persons whose morality will hardly pass muster, that one is sorely tempted at times to take the other horn of the dilemma, and to say with Schleiermacher that "religion has nothing to do with morality."

The real trouble with us all, Arnold and Cicero and Schleiermacher and the people who make dictionaries alike, is that we are too academic. We approach the problem of religion from the point of view of highly civilized and sophisticated persons, who know religions only on their higher levels, and who quite lack any realizing sense of what life would be without policemen and insurance companies.

But religion did not begin in churches or libraries, among scholarly priests and well-dressed worshipers. Religion took its start in dens and caves of the earth, among naked and hungry men, whose chief thought for the morrow was whether they should be alive at all, and whose morality, such as they had, was shot through by one emotion only — a primitive and ever-present fear. We get at the essence of religion only by studying it at its beginning as well as at its end, precisely as in these evolutionary days, the proper study of mankind is *Drosophila* and the guinea pig. All our definitions of religion, all our classification of actual religions, ought to rest on very much less complicated ex-

amples than those which most of us know at first hand.

Come at from this point of view, "religion" proves to have at least four different meanings. These blend into one another. Each separate, organized religion commonly embodies more than one sense. Men may worship side by side, use the same formulas, and yet have quite different ideas as to what their religion is all about. Nevertheless, in the end, there is no thinking clearly about religion unless one keeps the four meanings of the word separate in his mind.

These four meanings correspond to four historical stages in the evolution of actual religions. Convenient names are:

Nature religions.
Tribal and national religions.
Religions of morality.
Religions of redemption.

No one of these, to be sure, in actual practice, excludes any of the rest. Each, also, in actual practice, includes survivals and anticipations of most of the others. Nevertheless, there are these four stages. And since every actual religion is, in some form or other, an offer of salvation, the stages of religious advance and the meaning of the word itself must always turn on the objects which men fear and from which they look to their religion to protect them.

Religion, then, begins in fear; and the way to

understand religion is to begin with primitive man and to see just what it was that he was afraid of. From that point we may pass with profit to times nearer our own and to men who fear something different, until we reach ourselves and our own terrors. Ultimately, all interpretation of actual religion rests on the different objects which inspire dread and the different means by which fear is, in the end, cast out.

Early man, then, with the best of reasons, fears most of all the forces of nature. His problem of survival narrows down to coping with storm and drought, plague, pestilence, and famine, wild beasts and the chances of the dark. Against these, he is, in his own strength, defenseless. Therefore, he looks to his religion to protect him.

Thus, the Lake Superior Indian, starting off in his canoe, scatters tobacco on the water and prays for calm weather; or, caught in a storm, appeases the angry, tempest-raising divinity by throwing overboard a dog. Most hunters with sling and bow half beseech, half compel by charms, buffalo god, bear god, and the rest, not to let the quarry wander too far afield and not to lay to their charge the death of their prey. No primitive husbandman plants his field without some sort of religious exercise to make the seed sprout; or reaps the harvest without expressing to the vegetation gods his lively sense of favors

to come. All over the world, men have buried living things or appropriate objects under corner stones of buildings to make the walls stand up. The horrible sacrifices of the Aztecs were to help the sun through the sky. Even in modern times the people of Egypt have looked to an immemorial ceremony to aid the Nile to rise.

Early religion is, of course, two thirds magic. But on the face of things, it does work. At any rate, primitive man does not experiment with the chance of slow or sudden death by omitting any religious form which his medicine man recommends. Therefore are all nature religions alike, the world over. They all include the whole of life, even to matters of diet, the phase of the moon on which the believer has his hair cut, and the terms in which he is to address his mother-in-law. They all claim to influence the course of nature, and thus to secure salvation from very practical ills. They all, therefore, promise some form of worldly prosperity. Their fundamental ideas survive through all the stages above.

For most of us the nearest contact with a religion of this type is by way of the Greeks, among whom large fragments of primitive cultus persisted long after they should have been absorbed into the next stage of evolution. There are glimpses, also, of ancient nature gods in certain of the early fragments embedded in our Book of Genesis.

Survivals into our own time are numerous and apparent. Here belong all prayers for rain and fair weather, many healing cults, the obsolete Fast Day and the still flourishing Thanksgiving, all feelings of added safety during thunder-storms when there is a Bible in the house. One ought not to speak slightingly of any faith, even though it attempt to move mountains. At the same time we ought frankly to recognize that religion, in the sense of a more or less magical device for changing the position of material bodies in space, does belong to a cultural level, from which, in other fields, the world is pretty much clear.

The next stage in the evolution of religion, with the corresponding alteration in the meaning of the word, arises by slow degrees, as men settle into organized communities, with more or less permanent abodes, dependable crops or herds, efficient weapons, and personal property. They have put down the wild beasts, have sheltered themselves from the weather, have learned to carry their food supply through the slack season. Though they still have to fear all that early man feared — as, indeed, even we still do to-day — these fears are becoming somewhat remote. Means of protection have come a good deal under men's control.

The pressing fear now is raiding neighbors with an eye to movable goods. Whereupon some old nature divinity with a local shrine within the

tribal territories develops into a tribal god. The deity who formerly managed the winds or the thunder now gives his people victory over the worshipers of other similar gods, and confirms their title to whatever articles of value they have been able to annex. Relation between divinity and worshiper is a good deal a matter of bargain. The one offers sacrifices and observes the ceremonial law. The other reciprocates with prosperity and victories. The same convenient arrangement on a larger scale, commonly with a greater number of gods, becomes any one of the great national religions of ancient times.

The Hebrews are at this level throughout much of the earlier portion of the Old Testament. So, too, are the Romans, well into the Christian era. For the Romans, like the Greeks, had no great turn for religion; and remained to the end, in these matters, much below their cultural level. Therefore, the Roman Government persecuted the early church in pure self-defense; and even beyond 400 A.D., no less a person than St. Augustine felt it necessary to devote no small part of his "Civitas Dei" to a somewhat disingenuous refutation of the current opinion that the sack of Rome by Alaric was in punishment of apostasy from the ancient gods. The same order of ideas controls those excellent persons who refuse to vote because "there is no mention of the Deity in the Constitution." There was also *Unser Gott.*

But with the rise of the great empires came also individualism. For men's minds turn inward both when they have acquired "more country than they can love," and when an expanding world power has swallowed up the little country that was theirs. Religion, in response, while still remaining in effect a contract, is no longer a covenant between God and the State. It now becomes a relation between God and the individual man. Thus, for the first time, religion tends to become a private affair.

Of these "religions of morality," Pharisaism is perhaps the best-known instance. A better example still, in many ways, is the old "Religion of Zoroaster," of which we have glimpses in the later books of the Old Testament, from which the Pharisees seem to have borrowed many of their important ideas, and by the name of whose God we blasphemously call our electric lamps.

The upland of Persia is a lean country at best, where men make a living at all only by the diligent practice of the heathen virtues. So the Mazdayasnians abolished fasting in the interests of efficiency; and while they did retain prayers and ceremonial law, they made their final salvation depend chiefly on actual good deeds. Killing vermin, digging up weeds, feeding stray dogs, tending cows, marrying inside the family, all went in to swell the man's account and to widen the bridge on which his soul would have to

make its way over the abyss into paradise. The righteous man was saved, not so much by faith or by magic as simply by his works. The wicked sojourned, temporarily, in hell, if, taking their lives through, the sum total of their acts had on the whole put Satan to the good. Thus the followers of Zarathushtra made their religion as nearly pure morality as organized religions ever are.

So far as religions of this type are social, the goodness of the individual is thought to advance also the welfare of the community, as certain of the Rabbis taught that a single Sabbath perfectly observed would bring in the reign of Messiah. In general, however, the good man stands on his own feet; and he looks to receiving manifold more in this present life as part of his reward. "If I went into a community with only one church," says the author of "Religion and Business," "and found that church made up of only the poor people of the community, I would say that its religion was no good. . . . The real test of a religion is whether its followers are healthy, happy, and prosperous."

Yet, on their higher levels, there are no nobler faiths on earth than these Religions of Morality. In such, for example, as Prophetic Judaism, the believer expects no personal reward in this world, and his goodness is no matter of formal code or simple enumeration of good acts, but a funda-

mental righteousness of heart. "What doth the Lord require of thee, but to deal justly, and to love mercy, and to walk humbly with thy God?" — while the whole of Leviticus and Deuteronomy condenses to the eleventh and twelfth commandments — which, strictly speaking, are not "commandments" at all.

We commonly think of the Hebrew people as having a special genius for religion. Strictly, they really had a special genius for getting on without religion. They were of all their contemporaries among the least religious, in the sense that they performed daily the fewest useless and irrational acts because their priests commanded, and held the fewest absurd opinions on theological grounds. The history of the religion of Israel is a history of getting clear of superstitions to which other peoples have clung.

By this way of simplicity, religions of morality pass over into religions of redemption.

Actually, most of the higher religions of the world hang more or less between the two types. Most religious persons are also in that intermediate state. So, too, are most definitions of religion.

Nevertheless, ever since men have been setting down their reflections concerning the inner life, there have always been some persons for whom religion has nothing to do with morality, in the sense that, after they have kept the law

from their youth up, they still lack the one thing which for them is most important of all. Such persons desire salvation, neither in the form of lengthened days and fuller barns, nor as immortal life. The first they can do without; the second they can earn. Their ardent desire is to still an inner conflict and to attain to the peace of God which passeth all understanding. "Twice-born men" is William James's name for such. St. Paul is the standard example.

To persons of this sort, redemption comes by two different paths, which have been called, more conveniently than accurately, the way of Buddha and the way of Christ.

The one brings inner peace as the reward of a stern and lifelong self-discipline of the will. This is the way of the Stoic. It is also the way of the Puritan, who, for all his open Bible, was quite as much philosopher as Christian. No better men have ever walked the earth than the products of this method. But the gate is strait and the way long; and the men who have passed through owe too much to fortunate accidents of nature ever to make their example popular.

The other way makes salvation a free gift, and always a good deal of a miracle. As a matter of fact, of course, none of the religions of redemption have any monopoly of either approach to Nirvana. Islam brings men to paradise by way of a formula — provided the true believer has

also made his prayers and pilgrimages, done his works of mercy, died in battle with the infidel or defending his property against robbers. By all objective tests, Amida Buddha justifies by faith; while only the cruder sort of Christian expects to get through the world without mortifying the flesh. So, in the end, all redemptive religions are basally alike. They all have for their final objective peace rather than righteousness; but they all, in the end, involve both.

There are, then, to our original question, What is religion? four different answers.

Religion is a set of devices for altering the course of nature. It is a contract between corporate society and God. It is a set of categorical imperatives which the will of God imposes upon individual men and sanctions by rewards and punishments. It is a conversion of the inner nature, accompanied by disappearance of the state of sinfulness, and without overmuch concern for specific moral acts. The four different meanings shade into one another. Most actual religions include something of each. Yet the four are so far different that no one definition of religion will cover them all.

Two of these meanings concern bygone faiths which, in large part, survive their utility. The other two involve conceptions that are still vital. Present-day religion among civilized men is "morality touched with emotion"; and it is also

something that has "nothing to do with morality." The wise will not say "religion" without taking thought which of these they mean.

Nevertheless, after all that historian and psychologist and dictionary-maker can say, religion always, at its best, at the same time includes morality and transcends it. The best of men have always been both moralists and mystics.

CHAPTER II

THE THREE PARTS OF A RELIGION

We may, nevertheless, come at this whole question of the meaning of religion from a somewhat different point of view.

Each of us, as he runs through the sequences of his daily acts, is, by turns, several different kinds of person. We rise in the morning, sleepy and hungry animals, to be washed and fed. An hour later, we become "the economic man," interested ultimately in the production of consumers' goods, concerned for the rest of the working day with the creation or distribution of wealth. Or it may be that some time during office hours we switch our minds entirely off our own affairs, and sit with a committee that is in charge of some public or political or philanthropic work. Now, for the moment, we are neither hungry animals nor economic men, but citizens concerned for the welfare of the State. Men do, on occasion, forget sleep and food and property and kindred, to serve their country alone. Then, perhaps, still later in the day, the producer and the citizen undergoes still another metapsychosis and becomes sportsman, artist, naturalist, parent, husband, or friend.

In some such wise as this, we cut our lives into pieces. We do one thing at a time. We are one person at a time, correspondingly. But underneath all these various momentary selves lies the basal unity. Whenever we stop to think, all these various aspects of our existences drop into their places in the general plan, so that seeing our lives steadily, we see them whole. Thus we become philosophers.

In precisely similar fashion, the moment we cease reacting to the separate aspects of our environment and begin to adjust ourselves to the universe as a whole, we become thereby religious. Religion, then, implies a unity of soul. We walk by faith whenever we consider each separate act, as our elders expressed it, *sub specie æternitatis*.

Now these two conceptions of religion, as morality touched with emotion, and as the deeds of the moment seen under the aspect of eternity, are at bottom the same. If we serve the Lord with gladness, the serving the Lord is one side, the gladness is the other.

> "Who sweeps a room as for Thy laws
> Makes that and the action fine."

In addition, the sweeper proves himself religious. The irreligious person thinks only of getting the room clean, and loses correspondingly some part of the joy of his labor.

Yet, while this vision of the daily chores *sub specie æternitatis* seems to be a nearly universal

experience, it comes, alas, with any sort of vividness and authority, to only a few gifted souls, who thereby become, in these relations, the natural leaders of their fellows. The rest of us so clutter up our lives with small matters done for immediate ends that we have to be reminded, at least once a week, that there are larger concerns. Inevitably, therefore, this occasional insight of ordinary men gets itself accumulated and expressed in institutions. Thus, out of religion, arise religions.

But, although the actual religions of the earth are as diverse as the men who make them, each separate one of them, always and everywhere, has in it three elements. These are, a ritual, a body of doctrine, and a rule of conduct. Ritual includes, not only the church or temple service, but the entire outward setting of the cult — architecture, holy seasons, priesthood, organization. The body of doctrine involves, along with the formulated dogmas, all the wide fringe of tradition, presupposition, and folk-lore which goes with it. The moral code includes, also, custom, taboo, and unwritten law.

The occurrence simultaneously of all three elements becomes a convenient test of what is or is not a religion.

Socialism, for example, is sometimes spoken of as a religion. In practical conduct the more thoroughgoing of socialists certainly differ, some-

times inconveniently, from non-socialists. Their dogmas are formulated, and enforced, with a rigidity that a pope might envy. But socialism has no ritual. Therefore, socialism is not a religion.

On the other hand, there are the numerous secret societies. Most of them have an elaborate, if commonplace, ritual. The conduct of their members, at least toward one another, does differ describably from that of outsiders. But they have no special body of opinion to mark them off from other men.

By the same test, the attempt of certain learned but unimaginative persons, late in the last century, to found a "religion of science" was foredoomed from the start. Scientific men have a code of professional ethics, which, in emphasis at least, is as much their own as are the moral laws of several distinct religions, and there is, besides, "the scientific spirit, with its courage and serenity, its disciplined conscience, its intellectual morality, its habitual response to any disclosure of the truth." The total body of scientific doctrine now surpasses, probably many times over, that of all the religions of the world combined. But science, *qua* science, can never develop a ritual. Therefore can there never be any Religion of Science.

Yet, though the differences among the actual religions of the world involve all the three ele-

ments, code and ritual and dogma, the differences in the essentials of the moral law, among the higher religions at least, turn out to be surprisingly small. Each one, high or low, lays down pretty explicitly what is or is not "right." Nearly all, in addition, proclaim their rules to be the will of God, to be transgressed at one's peril. But human nature is everywhere so much the same, and human experiences are everywhere so much alike, that, in spite of certain differences of ideal, the ordinary "good" man of any one of the higher faiths is, for all practical purposes, about like the good man of any other. In India, for example, where even the athletics are organized on religious lines, the cricketers and polo players from the Parsi, Mohammedan, Hindoo, and British universities all alike conform to the by no means unexacting ethics of sport, and all are equally "gentlemen." The Chinese students in American schools are like other college boys. We still admire Socrates and read Epictetus. And since

"We needs must love the highest when we see it,"

if there were no other element in religion than morality, we should be but a short way from one world-wide "religion of all good men."

Rituals, also, though different in appearance, are curiously alike. They all involve the same sacrifices and offerings, the same fastings and

ceremonial meals, the same sacramental washings and baptisms, processions, vigils, incense, dim religious light. The forms may be vastly elaborated, as in the older branches of the Christian Church. They may be reduced to the barest remnant, as among the Society of Friends. But whatever occurs at all is about the same, the world over. After everything is said, ritual remains an art — and art is one, everywhere.

So the early Roman Catholic missionaries to Tibet, encountering the high-church Buddhists of the Greater Vehicle, believed the Devil to be caricaturing their own high mass. What Protestant, entering into the synagogue on the Sabbath day, feels the service strange? Men do find their deepest impulses to be weak and evanescent. They do find that certain forms of worship, certain types of architecture, certain recurrent holy days, do help them to recall their minds from temporary concerns to eternal. And since all good men are, at bottom, pretty much alike, the rituals that help to hold them to their duty are alike also.

The differences lie, of course, in the interpretation of the ritual; so that the same act may have a quite different meaning even within the limits of the same faith. Thus, for example, baptism is for certain Christians a cleansing from sin. For certain others, it typifies death and

resurrection. For John the Baptizer preaching in the wilderness of Judea, there seems to have been an additional meaning that is now completely lost. But the taurobolium, for all its difference of form, had precisely the meanings of our familiar rite.

Obviously, however, for such of us as have outgrown a belief in magic, the efficiency of any ritual is solely a question of habit and association. One gets good out of any to which he has been brought up. The wise man, therefore, will train himself to all, interpreting each in accord with his own momentary need. He should be willing, with mental reservations, to "worship Mumbo Jumbo in the Mountains of the Moon," if fate chanced to take him to that far-off district, and there was nothing other to be had. For any man to object to one form of religious observance, for no better reason than because he happened to be born into contact with another, is about as rational as to turn one's back on the Taj Mahal, on the ground that he has been living across the street from a cemetery. The moralities of religions, and their aids to emotion, are alike beyond argument.

Matters of doctrine, on the other hand, are in quite a different case. The higher life, as others before Goethe no doubt remarked, is concerned with the true, the beautiful, and the good. On goodness and beauty, as expressed in moral

code and ritual, all men are in large measure agreed. But truth is various.

Moreover, each of us, in a very real sense, makes his own theology. The form, to be sure, is set for us by the established faith into which we chance to be born; so that we are Christian, Jew, Buddhist, Confucian, or Latter Day Saint, as befits our special longitude east or west of Suez. All such labels, however, have to do with only the externals and the accidents of our opinions. Their content, their inner and personal significance, we build up for ourselves, bit by bit, out of the total experience of our lives.

For most normal people this process of constructing a set of articles of faith continues throughout our years. We read our daily chapter in the New Testament or the Old, in Science and Health or the Bhagavad Gita; and we slowly correlate revelation with experience. Old puzzles resolve themselves in the light of new information. We attack old difficulties from new angles. Certain riddles, we discover, simply have no answers; and they cease to trouble us. Certain problems we discover to be merely verbal, the solution being that there is no problem there. Patiently, with the passage of years, the wise man knits together his theoretic knowledge and his practical experience into a working faith. Just as, according to the proverb, one is, at forty,

"either a fool or a physician," so is he, at forty, either a fool or a philosopher.

Moreover, as things are now in this country, even the form of one's belief is not determined altogether by accident of birth. Granted that of the nearly two hundred and seventy warring sects of Christendom, nine tenths are, for most of us, practically negligible, a score or so remain to be reckoned with. There are, besides, a half-score of newer sects, with their variants. Few men or women, probably, go through life without having to make up their minds, more or less finally, with which of several somewhat diverse bodies their own views are in closest accord. Many persons, as a matter of fact, do change.

In "truth," then, rather than in beauty or goodness, lie the differences between different religions, and the diversities among different religious men. And since all cannot be right, in doctrine, not in ritual or law, is the weak spot both of personal faith and organized cult. Rituals may be crude. Moral codes may be inadequate. But only dogmas are demonstrably wrong.

The problem thus offered is nowadays a serious one. For any religion, public or private, to be accepted as completely "true," it ought to have all its doctrines in precise agreement with all the soundest secular opinion of its day. This has occurred at various times in the past. It was

the case throughout most of Old Testament history. It was the case in Christian Europe in the 1270's. But it was not at all the case in Rome in the Age of Augustus; and it is not universally the case in these United States of America in this year of grace.

For a religion, by its very nature, is conservative. Its truths of faith tend to preserve forms of words which the learned world has abandoned. The God who is the object of its worship tends to be the kind of being who would have created the universe known to the science of the past. It tends to interpret its sacred books in the way that other books were interpreted years before. A ritual easily takes on new meaning, and is all the better for its age. Moral codes have proved curiously elastic. But a formulated dogma is fixed in an eternal state. The more rapid the progress of knowledge, the more difficult becomes the continuous readjustment. In the end, old religions break down and new ones take their place when this adaptation finally becomes impossible. It was not the Christian apostle, but the Alexandrian astronomer, that ended the ancient Roman cult.

The wise man, therefore, will see to it, early in life, that he holds all truth as he sees it in such fashion that, with each fresh advance in knowledge, he will have no cause to balk or to compromise, but may accept, heartily and gladly,

any new light from any source. It must needs be that changes come; but the test of a sound opinion is precisely its elasticity, as Newton's teaching, based on the motions of the moon, held also for Uranus and the dark companion of Algol, of which Sir Isaac never knew. All the fundamental doctrines of natural science have made fish of whatever came to their net, and grown by what they feed on. Why should it be different with fundamental doctrines in any field? We can never have a religion of science: we may, whenever we will, have a scientific religion.

CHAPTER III

RELIGION AND WORLD-VIEW

THE Germans have a word, *Weltanschauung*, which of late years we have begun to take over into English, having ourselves no precise equivalent, yet needing the idea. "World-view" is the nearest we can come — meaning one's entire general conception of the universe, as a whole and also in its parts, as all hangs together into one consistent scheme. A world-view involves, therefore, matter and souls, angels and gods and devils, planets and stars, animals and human nature, the beginning of everything and its end, together with the relations and the meaning of them all. It is, in short, a man's way of conceiving the whole of things as they are.

Each of us, therefore, has more or less his own personal world-view. Differences of opinion between men are commonly, at bottom, not really concerned with the particular point at issue; but involve the entire substratum of prejudice and presupposition, of ways of envisaging evidence, of ideas as to what is or is not possible. The wisdom of each disputant seems foolishness to the other, because neither can fit the other's contention into his own world. So

"East is east, and west is west,
And never the twain shall meet."

Unfortunately for us all, such differences of *Weltanschauung* are most conspicuous in the sphere of religion.

All the men who made our historic creeds, most of those who wrote our best hymns, many who fixed the forms of our rituals, had a world-outlook altogether different from our own. Calvin and Luther, for example, both believed in a flat earth; and Calvin seems to have clung to that opinion even after Magellan's voyage. Luther called Copernicus "upstart astrologer" and "fool." Milton, in the eighth book of "Paradise Lost," though he knew Galileo personally, cannot bring himself to "*El pur se muove.*" Wesley, born sixteen years after the "Principia," opined that "Mr. Newton's theories tend to infidelity." Even now, every short while, the Monday morning newspapers report some clergyman's animadversions on "Darwinism."

Ultimately, most of our formal theology goes back to Augustine and 325 A.D. It took shape, therefore, in a dying world, where a great civilization was running down from good to bad and from bad to worse, until the night of the Dark Ages closed over Europe. Our creeds, therefore, our hymns, our church services, our entire religious vocabulary, reflect the world-view of men who, so far from being able to discover new

truth, could not so much as hold on to the old which the past had given them, and who were bringing back to plague mankind every sort of superstition which Greek science had held at bay. Naturally, then, some of their opinions do not altogether fit a time when, in certain fields, we make more progress in twenty years than our forbears made in twenty centuries.

Six days in the week we live in an ordered world. On the seventh, we open the church door on a land of topsy-turvy, where axes float, dry sticks change to serpents, cities are let down out of the sky, angels stir the water of wells, bedeviled swine run violently into the sea. We say prayers for rain an hour after we have consulted a government bulletin to see whether we shall need an umbrella before we get home. We solemnly repeat, "... Maker of heaven and earth ... descended into Hell ... sitteth on the right hand of God ..." Yet all the while we know perfectly well that heaven is not "up" nor hell "down," that this universe was never "made" by anybody in any such sense as the "apostles" supposed, nor has it any such topographical relations as they assumed. Whoso has sat with his eye at one end of a brass tube and a fragment of the everlasting mystery at the other, knows that no living being, from pond scum to mammal, ever gets into this unintelligible world by virtue of any process that in the least resembles anything

that the days of ignorance meant by "*conceptus*"; while as for "*carnis resurrectionem*," which, as a piece of psychophysics, we inherit from the followers of Zarathushtra by way of the Pharisees and St. Paul, most of us actually do hold the diametrically opposite opinion — the Platonic doctrine of the immortality of the soul.

One need not dwell on the incongruous language of our hymns. "While with ceaseless course the sun"; "Sing choirs of angels"; "The Lamb upon the throne";

> "Casting down their golden crowns
> Around the glassy sea.
> Cherubim and Seraphim
> Falling down before Thee."

Who would guess, listening to many prayers, that the Being to whom they are addressed is supposed also to be responsible for the sixty thousand great stars of that dim cluster in Hercules?

We can write good war poetry without mentioning shields and spears. We can talk about books and architecture and music and the rest of the things of the spirit in an accurate, critical, modern vocabulary. But we do not seem to be able to sing hymns or to say prayers or to define dogmas without dragging in the world-view of people who looked to a king's touch to cure skin disease and rang a church bell to frighten off a comet. The inevitable result is "the seeming unreality of the spiritual life."

One lesson the war taught us: the difference between a regiment of Mohammedans, dropping down in their places at the hour of prayer, every man with his face toward Mecca and his forehead on the ground, and a regiment of Christians, using the forms of their faith only as the basis of their profanity. The one has no universal education or popular press. Therefore, it keeps the *Weltanschauung* of the Koran, and believes its religion. The other, having both, tries vainly to be at the same time in two worlds. The practical result is that this United States of America, in this year of grace, is probably the most irreligious nation that has ever had a place on the earth.

And yet, obviously, we cannot very well re-write all our hymns and re-edit all our service books every time somebody synthesizes a new carbon compound. This has, in a way, been tried. Some of the more aberrant denominations, in addition to composing new spiritual songs to embody their doctrines, have tried revising the old ones to the same end. The result is sorry doggerel in place of good poetry. After all, "Mesopotamia" really is a "blessed word." Practically, for us, there is no moving men's hearts to righteousness by any other form of words than those which uplifted Israel. That much is fixed for us in all matters of ritual.

Creeds need not be in the same case. There is just now, a marked trend, on the part of those

bodies which are least limited by tradition, toward a continual restating of their doctrines as their own *Weltanschauung* moves another step away from that of their founders. Unfortunately, the practical result of this process is to make each successive formulary just a little vaguer than the one before it, until, in certain instances, no mortal man can attach any precise meaning whatever to the words.

Such, clearly, is not the way out. If we are to make vain repetitions as the heathen do — and there is, really, not a little to be said for this time-honored method — we had much better repeat time-honored words. Much of the value of forms of any sort lies precisely in their suggestion of our own dependence on the past. It is good in times of joy, for us rampant individualists to recall how many other men, pagans many of them in German forests, have also repeated, "with this ring, I thee wed"; and how many ancient worshipers of heathen gods have looked to the same touch of water to make their children better men than they. There is no greater comfort in bereavement than to feel how many other men and women have listened to the same burial service, and taken heart again at the same assurance. The religion that shows us our daily acts *sub specie æternitatis* should also show us our place in history.

Shall we, then, continue to mumble the same

old words, letting it be understood, not too publicly, that we know neither what they meant to everybody once, nor what they mean to ourselves now, leaving it to our children to discover for themselves that what we say in church belongs with Santa Claus and the stork? It has been done. Men have, in fact, gone even farther on the same road. The Parsis of India, up to the time of their great awakening in the middle of the last century, had, for a thousand years, been chanting passages from the Gathas, in a tongue of which no living man understood so much as a single sentence. Apparently, they received their reward, for they have been called the most moral community in the world. We, also, can do likewise if we will. We can take our formulas as vague figures of speech, affirming our acceptance of them in some sense or other, yet never deciding either what that sense is, or why we do not take them literally as they stand. Moreover, we can continue to take the clause on one side of a comma as literal history, properly documented; and the clause on the other side of the same comma as a "spiritual truth" to which everybody is at liberty to attach any meaning he likes, or no meaning at all. But to do these things is to take all rationality out of our faith. Furthermore, it is also the way to court intellectual bankruptcy.

With things as they are, therefore, nowadays,

there is only one course open to a reasonable man. That is to take, bit by bit, all the dogmas of his church, all the articles of his private faith, and so many passages as interest him out of hymn and scripture, and to say of each: "To the man who wrote this, it meant precisely so-and-so. I do, or I do not believe it in this sense."

An unknown Jew, for example, wrote, "The Lord is my Shepherd . . ." Obviously, he did not mean to be taken literally, as having wool on his back and sleeping out on the grass. Whoever wrote the twenty-third psalm knew that he was writing poetry; and as poetry he expected to be read. We may, therefore, read that passage as poetry, with whatever poetic imagination it has pleased Providence to bless us. But that other unknown Jew who wrote the account of the shadow on the sundial of Ahaz, which "returned backward ten steps . . . on the dial whereon it was gone down," thought he was writing literal history. He meant his account to be taken as it stands; and he was writing nonsense. It was, to be sure, not nonsense to him; because his world-view included a flat earth, with a sun, the size of a tent, carried across the under surface of a solid sky. For him, there was no reason why the sun should not move east as easily as west. So long, then, as we see this story, in its own setting, as part of a consistent *Weltanschauung*, we may do what else we like with it, and extract any

moral that we can. But we must not take it out of its place, and try, by any process of rationalization, to fit it into the Copernican astronomy. Along that way lies all confusion.

So with any article of any historic creed or any ancient teaching of any church. We can never know too completely why men of other days thought as they did, nor too accurately what it was they thought. We shall come to no harm by conducting our present-day worship or by talking about our present-day faith in terms of the science of a bygone time, any more than by building our churches in a style that men once used also for houses and barns, so long as we understand frankly that we are using obsolete forms. Religion takes on the unreality of the discarded science only when we forget that the science is discarded and try to piece together the old garment and the new cloth. We may rightly say all the old words in honor of the old saints — provided only that we always understand precisely what the ancient worthies meant, and precisely what we mean, and precisely why the two are or are not the same. The danger lies in muddle-headed pretense of factitious agreement.

On the other hand, whatever is anywhere permanently true ought to be capable of statement in terms of the *Weltanschauung* of any time and place. This, we sometimes forget, includes our own. We have to live in a world where axe heads

do not float, angels do not trouble the water, and the sun is a million times larger than the earth. Only in terms of this world can we, in the end, think profitably about anything.

We must, then, as things are, master two languages. One, the language of hymn and Bible and creed, is for edification and worship. The other, the language of our own day, is for making out what we really think. We ought to handle either language freely; and we ought, besides, to have a sort of historical grammar of our religious tongue, so that we can tell, at least in a general way, to what particular historic world-view each form of words belongs. But we ought not to talk a religious pidgin English.

Doubtless, in the course of time history will again repeat itself. A new prophet will arise who will restate once more the ancient truths — this time, in terms of a universe that is a thousand light years across and a thousand million years in age. Then will new poets write us new hymns, new priests devise new rituals, and new theologians formulate new creeds. We shall think we have a new religion, and prepare for persecution at the hands of persons who think they still believe the old one.

Meanwhile, we must not forget that religions are always practical affairs. They begin as specific taboos and special magics for getting crops to grow, walls to stand, and enemies to

run away. They end by getting men happily and efficiently through their day's work. What counts, then, as Arnold said, is the emotional experience and the moral ideal. The form of doctrine is a good deal incidental, a reflection of the special *Weltanschauung* of some prophet of the past, whose insight into a timeless reality has preserved some fossilized opinion of his day. Doubtless, some men will long continue to refuse to worship under the same roof with other men whose world-view dates a century or two earlier or later than their own. But the fashion of the time is all the other way; and we expect most opinions to be obsolescent from their birth. So the main thing nowadays is to keep clear of "that nebulous country where words take the place of ideas," and to remember always that

"Truth proceedeth rather out of error than out of confusion."

CHAPTER IV

THE ASTRONOMY OF THE BIBLE

In the beginning God created the heavens and the earth. And the earth was waste and void; and darkness was upon the face of the deep; and the spirit of God moved upon the face of the waters. . . . And God said, Let there be a firmament in the midst of the waters, and let it divide the waters from the waters. And God made the firmament, and divided the waters which were under the firmament from the waters which were above the firmament.

In the six hundredth year of Noah's life, in the second month, on the seventeenth day of the month . . . were all the fountains of the great deep broken up, and the windows of heaven were opened. And the rain was upon the earth forty days and forty nights. . . . And God remembered Noah . . . . and the waters were assuaged; the fountains also of the deep and the windows of heaven were stopped, and the rain from heaven was restrained.

I knew a man in Christ, fourteen years ago (whether in the body, I know not; or whether out of the body, I know not; God knoweth), such a one caught up even to the third heaven. And I knew such a man . . . how that he was caught up into Paradise. . . .

As we comprehend no man's religion until we

know his world-view, so we understand no man's world-view till we discover his astronomy. The earth itself is for each of us the stage on which he sets his opinions. The sun and the planets and the stars are the background against which his drama of history is played. These give him his scale, both in space and in time; and fix for him the limits of what may or may not occur. Even his god is always just that sort of divinity who will account for the visible universe as he conceives it to be.

Most unfortunately for us just now, there are at least three different and mutually incompatible astronomies with which we have to reckon, and among which we have to change back and forth as we attend to this interest or that. Our sacred book sets forth one order of nature. Our traditional theology presupposes another. Our school geographies teach still a third.

The first of these supposes the entire material universe to be about the size of the actual moon, with the moon itself just beyond the clouds, and the sun "as large as the Peloponnesus." The second puts the entire visible creation inside the known orbit of Mercury, and makes the distance of the moon from the earth, when correctly measured, to be one of the long dimensions of interstellar space. The third does its thinking in terms of a galaxy that is thousands of light years across the shortest way and at least ten times as

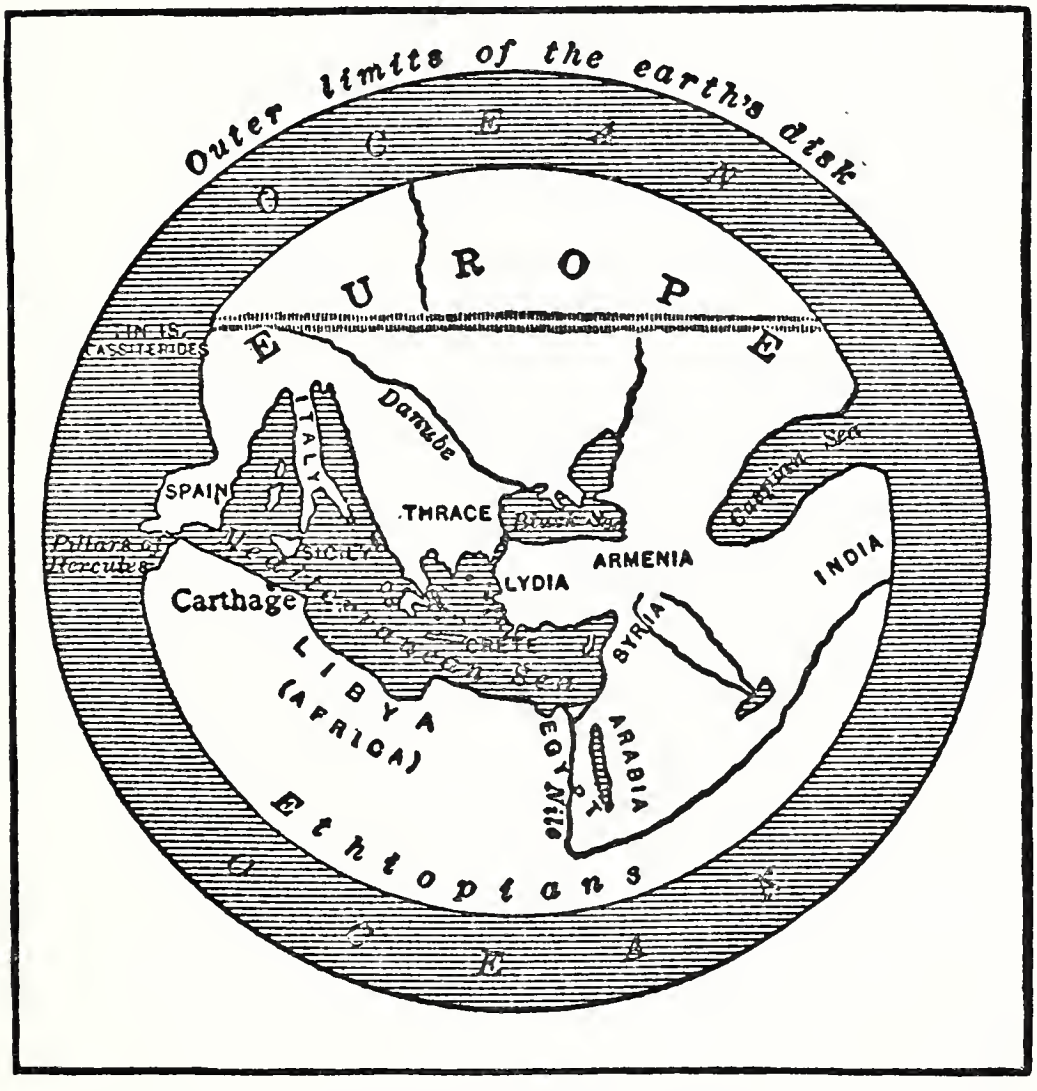
far the other; that contains three hundred million stars actually visible, several of them of such a size that a body one thousandth part as large would still be a thousand times larger than the sun; that relates the known distance of the moon to the known distance of the nearest fixed star as an inch to a thousand miles. Naturally, it makes no small difference to any man's religious opinions in which of these three universes he thinks of himself as dwelling.

Names for these three cosmologies are not to be had that will imply nothing and say all. Biblical, Christian, and modern, are convenient terms. Jerusalem, Rome (mediæval Rome, that is), and Alexandria suggest another set that has the merit of being colorless.

The Biblical astronomy is, of course, very much older than any portion of the Bible. It is, in fact, substantially the original conception of the *mundus* which arises always, everywhere, and among all men, before they have become critical.

Pre-scientific man built his universe on common sense. The earth is, obviously, flat and very large. Obviously, too, this flat surface is, in a general way, circular, with the observer's own native land somewhere near the middle. To those ancient peoples who most concern us, it was about equally obvious that, since travelers in most directions in which travel was profitable

came by and by to salt water, the entire circle of the lands must be surrounded on all sides by the stream of ocean. Somewhere beyond the ocean lie the mountains or the pillars or the unknown

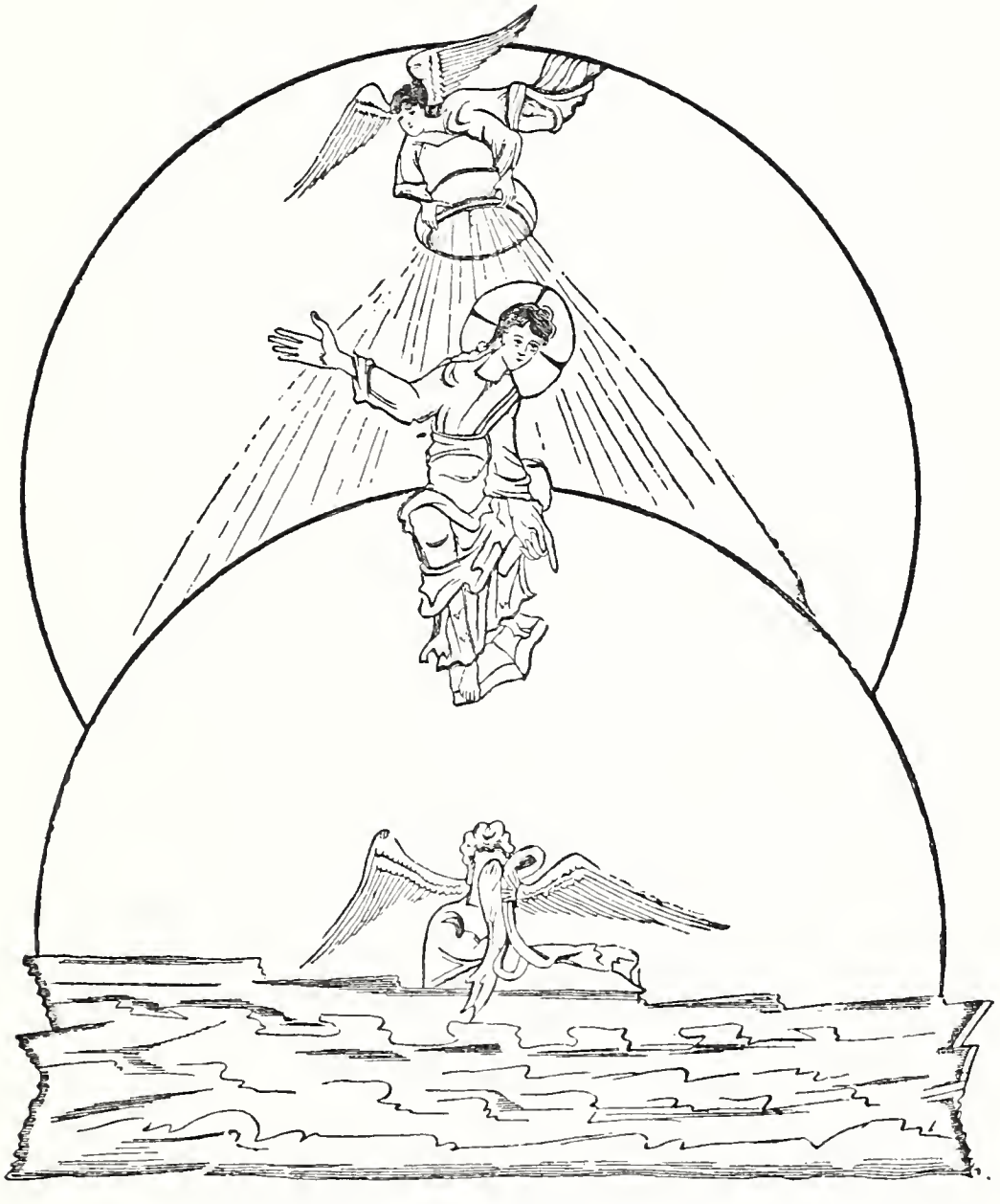


MAP OF THE WORLD BY HECATÆUS (517 B.C.)

lands which support the sky. On this much are agreed all those ancient peoples whose pupils we are. For them, all parts of the universe lay within a thousand miles of Suez.

As for the sky, this obviously is a solid firmament or vault, blue and star-studded on the under side, resting on the earth at the horizon. The sun "as a bridegroom coming out of his chamber," the moon and planets commonly, sometimes also the stars, are thought to enter the sky by doors in the east, pass across the firmament by their own will if they are gods, or be carried by angels if they are not, and to leave at night by other doors in the west. They may all return again to the east during the night; or the stars may be scrapped each morning and a new lot be created. Often, in countries far enough from the equator for the pole to be well up in the sky, all the heavenly bodies pass either by day or by night behind the great "Mountain of the North" on which was the Babylonian Garden of Eden. Somewhere beyond the horizon, presumably outside the firmament, are the storehouses of the winds, commonly four in number. High overhead, yet not so high that men may not hope to climb by way of a tower, are "the waters that are above the firmament," like a great tank, and "the treasuries of the hail." When "the windows of heaven are opened," rain or snow falls upon the earth.

Such, in general, is the universe which is so eloquently described in Job, the creation of which is so vividly set forth in Genesis. The same general conception is everywhere pre-



THE PRIMITIVE COSMOS

Above, the Almighty, seated on the concave firmament, is creating light. Below is the flat surface of the Great Deep with the Spirit of God moving upon the face of the waters.

From the Junian manuscript (probably tenth century) of Cædmon's seventh-century Anglo-Saxon epic "The Fall of Man."

supposed throughout all the Biblical books, even in the New Testament. It persisted, side by side with the "Ptolemaic" or Roman cosmology, all down through the Christian centuries, until Magellan, after 1519, finally wiped it off the scientific map. In general, the Protestant clergy, because of their dependence on the letter of the Scripture, maintained this Biblical view against the Roman Catholics, who trusted to Aristotle. It is held even now more widely than most persons realize. There are still in these United States schools in which a teacher of geography has to use no small tact in expounding "the globular hypothesis." At last accounts the Massachusetts Zetetic Society, with headquarters in Boston, was printing tracts to convert the world back to its ancient faith.

Our own great interest, however, must always be in the special form of the primitive flat-earth doctrine which developed in lower Mesopotamia, passed with some alterations to the early Hebrews, was still further modified by contact with Persia, prevailed throughout the Jewish world, and still has to be explained out of our own sacred text.

The Asian of the southwest set himself this problem: When Marduk or Ahura Mazda or Javeh Elohim, or whatever other god it was who first shaped the present world out of original chaos, did he start with a chaos of dry land and

add the water, or did he start with a chaos of water and add the land? The ancient Iranians, living on a dry upland, put the land first. But for dwellers near the head of the Persian Gulf, who could see with their own eyes, year by year, the great delta of the Tigris-Euphrates building out into the sea, the question had only one answer. Creation starts with "the great waters," "without form and void." The dry land appears only after a portion of this ancient sea has been divided off to become "the waters that are above the firmament." Still might the coast-dweller observe for himself more of the dry land appearing from out the waters of the great deep, of which the Gulf is a part, a hundred miles of new country during historic times.

But Mesopotamia is arid, with a desert on each side, fertile only when irrigated. Its ten inches of rain a year are quite insufficient to account for its two great rivers. Moreover, since "all the rivers run into the sea, yet the sea is not full," there is no other conclusion possible for pre-scientific man in a dry climate except that "unto the place whence they come, thither they return again," by way of underground passages. Thus the waters of the great deep flow back to lakes and ponds and springs, which in their turn feed the rivers. The waters which are under the earth are, however, not so much local channels as a vast cistern underlying all the fertile lands,

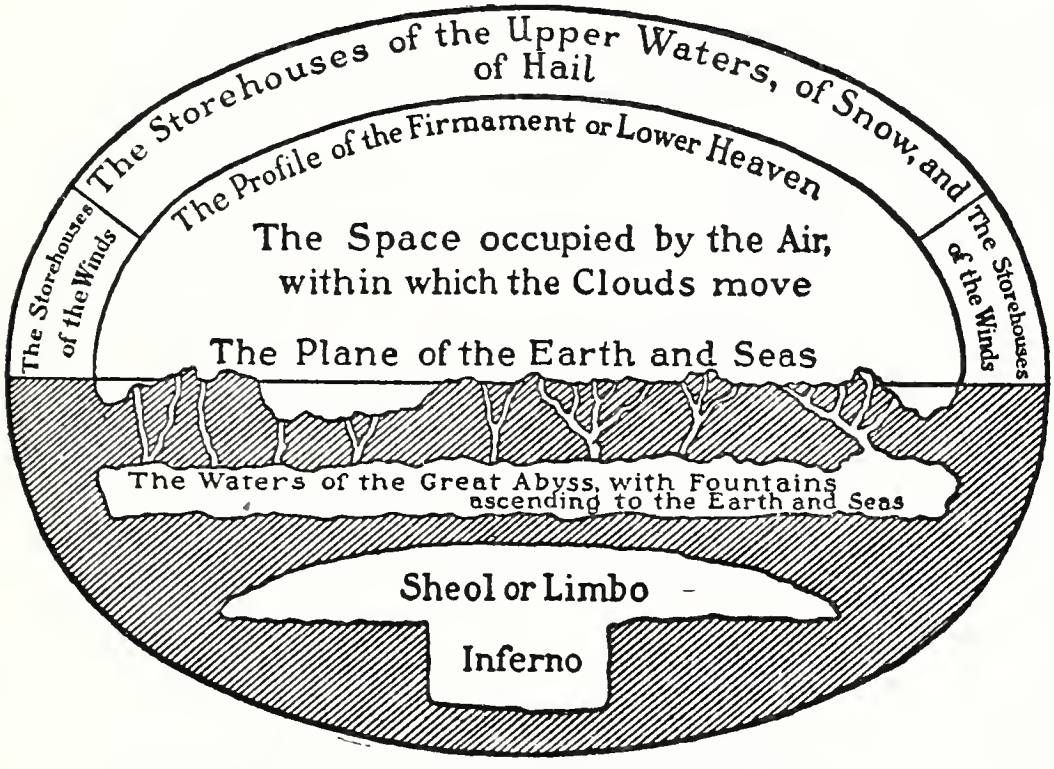
a portion of the waters of the great deep, which the fountains of the great deep bring to the surface of the earth.

In terms of this geography, therefore, all that was necessary to produce the great deluge was to open the windows of heaven and let down the waters above the firmament, and to break up the fountains of the great deep to let out the subterranean supply. The same general conception persisted into the Middle Ages. Albertus Magnus, who died in 1280, and Thomas Aquinas, who was his contemporary, both held that the larger rivers at least are supplied directly from the ocean, underground.

Somewhere in the bowels of the earth — whether above or below the waters of the great deep is commonly not clear — lies the country of the dead. Primitively, for the most part, the dead go to heaven. But, oddly enough, both the Jews and the Greeks, the two peoples to whom we owe most, seem to have made the shift to an underground country of the dead shortly before they appear in history. Paradise in the sky is, therefore, both primitive and Christian; though there are all sorts of variants, so that the Greenlanders, not perhaps without reason, tuck heaven cozily underground and put hell aloft where the wind blows.

Originally, both Hades and Sheol are ail alike. "The dead praise not the Lord, neither any that

go down into silence." "There is one fate to the righteous and to the wicked." But with the rise of self-conscious individualism and the religions of morality, men began to look to the future for



SCHIAPARELLI'S INTERPRETATION OF OLD TESTAMENT COSMOLOGY

rewards for themselves and punishment for others; so that the underworld tended to differentiate itself into Tartarus and Elysian Fields. Dives, in the parable, "died and was buried," and kept on downward into the pit at the bottom of Sheol. But Lazarus, "carried by the angels into Abraham's bosom," is in the upper and pleasanter portion of Sheol, though within sight and speaking distance of the bottom. In later

portions of the New Testament, however, the shift has been made back to paradise in the sky.

But the Jews as we meet them in history do not live on the flood plain of Mesopotamia, but in a hill country, a land of little rivers and of rain. In such a region, the sky is not so obviously brass, "like a molten mirror," and the rain is evidently from the clouds. The Babylonian world-view, therefore, while it remains as a pious tradition, is modified, not only in its theology — greatly to its advantage — but in its more verifiable aspects as well.

Thus, for example, in the ancient document which scholars separate out from the rest of the Hexateuch and call J, the background of which is southern Palestine, the flood story — in Genesis 7:1–5, this is the version that has the seven pairs of each sort of animal in the ark — has no mention of the fountains of the great deep. The flood waters come from the sky only. Moreover, J, which furnishes the second of the creation stories — the one in Genesis 2 in which the creation occupies one day only — adjusts most ingeniously the discrepant climates of the land of Marduk and the land of Javeh Elohim, making the transition in time, as it was not, instead of in space, as it actually was. "For the Lord God had not caused it to rain on the earth . . . but there went forth [probably a fountain of the great deep, originally] and watered the whole

face of the ground. . . . And a river went out of Eden to water the garden . . . and became four heads. . . . And the fourth river is Euphrates." Curiously enough, taking the narrative as it stands, the first rain on the new-created world was that which caused the great flood.

More important than this, as the primitive arid-country account altered under a rainy sky, is the change in the character of the firmament. This, from an opaque "inverted bowl," thins out to a curtain that is more or less transparent. The stars recede beyond the sky and shine through. The waters that are above the firmament persist only as a sop to tradition. The clouds themselves tend to form the floor of heaven.

With the firmament worn thin and no longer starry, the way is open for an increase in the number of heavens and elaboration of their details, under the influence, apparently, of a developing scientific interest in the planets. St. Paul, following his contemporaries, who in turn borrowed from Persia, seems to have distinguished three heavens. Seven has always been a favorite number, as still, for example, among Mohammedans. Dante and Milton come just under the dozen. According to Irenæus, Basilides had 365 in his cosmos. But no matter what the number, one of the set is commonly identified with the original firmament.

When the lowest heaven is at the level of the clouds, as commonly in the New Testament narrative, it lies, of course, only just above the tops of the higher hills. Whenever, therefore, the sky is torn asunder, men behold the Almighty sitting on his throne, or hear his voice in the air. Saints and angels slip back and forth between heaven and earth on all sorts of errands. A great sheet knit at the four corners, or a greater heavenly city, can be let down through the roof of the world. Nevertheless, the future abode of common mortals tends to remain underground. The various heavens are reserved for the gods, the angels, and a few favored mortals — Elijah, Moses, Messiah, the emperors. In fact, one of the great problems of religion, about the beginning of the Christian era, was how, with the rising of democracy, to get the ordinary man after death into the sky. On this essentially astronomical matter hang all the mystery religions.

A variant of this old flat-earth geography came out of Egypt — along with a good deal of important theology. Since the sky is only the Goddess Nut on her hands and knees; the earth must needs be twice as long one way as the other — whence our "latitude" and "longitude" — with a mountain at each corner to hold up the floor of heaven. So the universe is more box than bowl; though still, of course, three-storied, since

THE THREE-STORIED UNIVERSE OF ANCIENT TIMES AND THE EARLY MIDDLE AGES

The Glory-King of Hosts, with his faithful angels, stands on the floor of heaven, above the stars. Rebel spirits fall through the air into the mouth of hell.

> "And all henceforth to demons were transformed
> And doomed triumphless to the swart Abyss."

Hell, conceived, as usually, as a monster, connects interestingly with Jonah's "whale" — "Out of the belly of Sheol cried I" — and with Leviathan, the swift serpent, who devours the sun and moon at eclipses.

From the Junian manuscript (probably tenth century) of Cædmon's seventh-century Anglo-Saxon epic "The Fall of Man."

hell, as usual, has a floor, and heaven a roof. But the waters under the earth and the waters above the firmament have become only a pious convention.

This general conception of a rectangular universe, longest from east to west, fitted, much better than the Biblical "bowl theory," what was actually known after Alexander's time concerning the countries of the earth. It became, therefore, the favorite form of the flat-earth doctrine down through the Middle Ages until the time of Columbus and Magellan, Cosmas Indicopleustes, an Egyptian monk of the sixth century, being chief authority for the details. Nevertheless, by the end of the eighth century, both flat-earth astronomies had so far dropped out of sight that Dante, writing about 1300, shows no trace of either. Milton, on the other hand, reverts; and the real heroine of "Paradise Lost" is the Goddess Nut.

CHAPTER V

THE COSMOLOGY OF THE CREEDS

THE Roman, Christian, Alphonsine, or "Ptolemaic" astronomy begins, as much as with any one, with Pythagoras, shortly before 500 B.C.

The Greeks, as a whole, had no great turn for common sense. Therefore, because the earth looks like a flat disk, they straightway took to speculating whether, after all, it may not be some other shape — square, cylindrical, possibly even round. The Greeks were not really anything like so scientific as we sometimes make them out to be; but once clear of the common-sense presupposition that the earth is flat, it is only a short step for anybody to the proof that the figure actually is a sphere. Even before Plato's day, therefore, the true shape of the earth had become a commonplace of Greek science; and by the first century B.C., its size also was known, with an accuracy not surpassed until 1617. From Aristotle on, scientific Greek astronomy is substantially our own modern system.

There remained, nevertheless, one very fundamental problem — the distances of the various heavenly bodies. Most primitive astronomies put sun, moon, stars, and planets about equally

far from the earth. At the most, the fixed stars only are a little beyond the rest.

The Greeks, as usual, perceiving that all the host of heaven looks to be in about the same region, straightway assumed that their distances must be very unlike; and attempted forthwith to find what these distances are. By the second century B.C., at the Alexandrian Observatory they had located the moon with an error of only half of one per cent, and had measured its diameter to within about two hundred miles of the correct value. This gave, then, some idea of the scale of the universe, which they made out to be at least a half-million miles from side to side. The planets were proved to be somewhere beyond the moon, but resisted all attempts to place them accurately. Aristarchus, who was on the observatory staff at that time, got himself frowned upon for arguing that the stars may be many times more than ten million miles away. In general, the universe looked several thousand times farther across in Egypt than in Judea.

The Pythagoreans, however, were philosophers, not scientists. They philosophized a "central fire" for the earth to revolve about, and a "counter earth" that hid this fire from the antipodes. In addition, they evolved from their inner consciousnesses the famous "crystal spheres," each carrying one or other of the seven planets in its orbit, except the eighth

and outermost, which held all the fixed stars and was the limit of creation. All three together, as they moved, ground out "the music of the spheres."

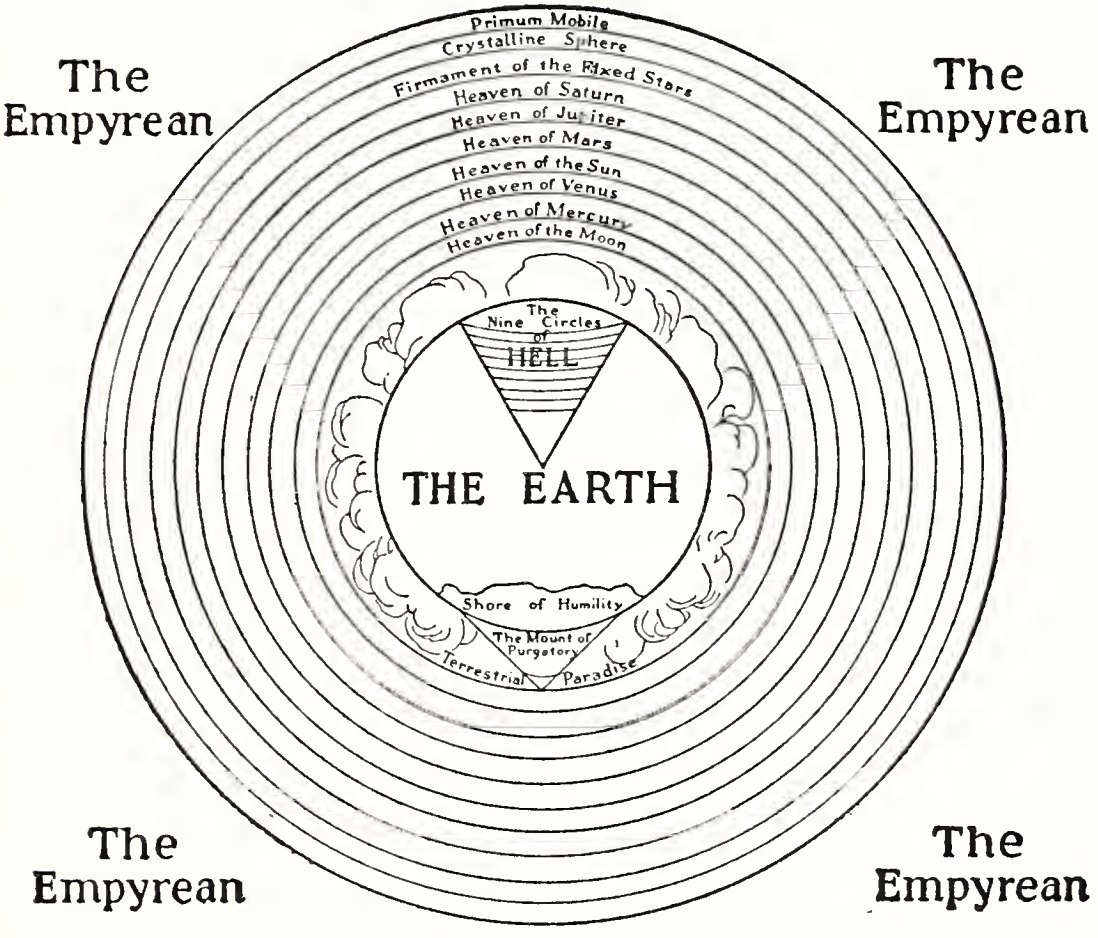
How this extraordinary Pythagorean system ever came to be called "Ptolemaic" is one of the ironies of history; for Ptolemy himself held no such opinion, and what he did think was quite incompatible with anything in the least like it. "Ptolemaic," nevertheless, it became, and "Ptolemaic" it remains to this day.

The Middle Ages made two changes. Alphonso X, who was an astronomer, added another sphere outside that which carries the fixed stars, to account for the precession of the equinoxes, and still another, the tenth, outside this, the *primum mobile*, to account for day and night. The theologians, in addition, made each crystal sphere the floor of a separate heaven, and put the heaven of heavens, the empyrean, the special dwelling-place of God, outside them all. Thus the successive heavens, eleven in number, surround the earth and each other on all sides, with the heaven of the moon farthest inside the ball. There still survive, however, certain vestiges of the older flat earth. Giant heads blow the winds from the four corners of the map. The empyrean is skewed off center with the rest of the heavens, to retain the absolute direction for up and down.

Needless to say, the inhabitants of these various spheres — principalities, powers, thrones, archangels, saints, the persons of the trinity — are all as accurately located in their several heavens as the inhabitants of a modern city on their proper streets. We shall never again know as much about the universe as men knew then.

Such, substantially, is the world-view of those theologians and fathers of the church who did not refuse altogether to believe that the world is round. This is the astronomy of Augustine, of Albertus Magnus, of Thomas Aquinas, and in general of the more enlightened clergy of the Roman Church after the eighth Christian century. Dante knows no other. Milton combines this with the Biblical theory; but is half minded to turn Copernican, a century after Copernicus had gone to his grave. Cotton Mather's conversion to the doctrine of a moving earth, about 1720, marks, in a general way, the end of scholarly support for the Christian theory in America.

Dante's system is essentially that of any of his educated countrymen three hundred years either side of his time. He puts his heavens in the Alphonsine spheres and in the space beyond. His earth is fixed at the center of the universe, and, although spherical, is inhabited on only one side, Jerusalem being at the middle point. On the back side of the earth is the Mount of Purgatory, nine stages along its sides, the terrestrial para-



DANTE'S UNIVERSE, 1300

Adapted from S. H. Gurteen's *Epic of the Fall of Man.*

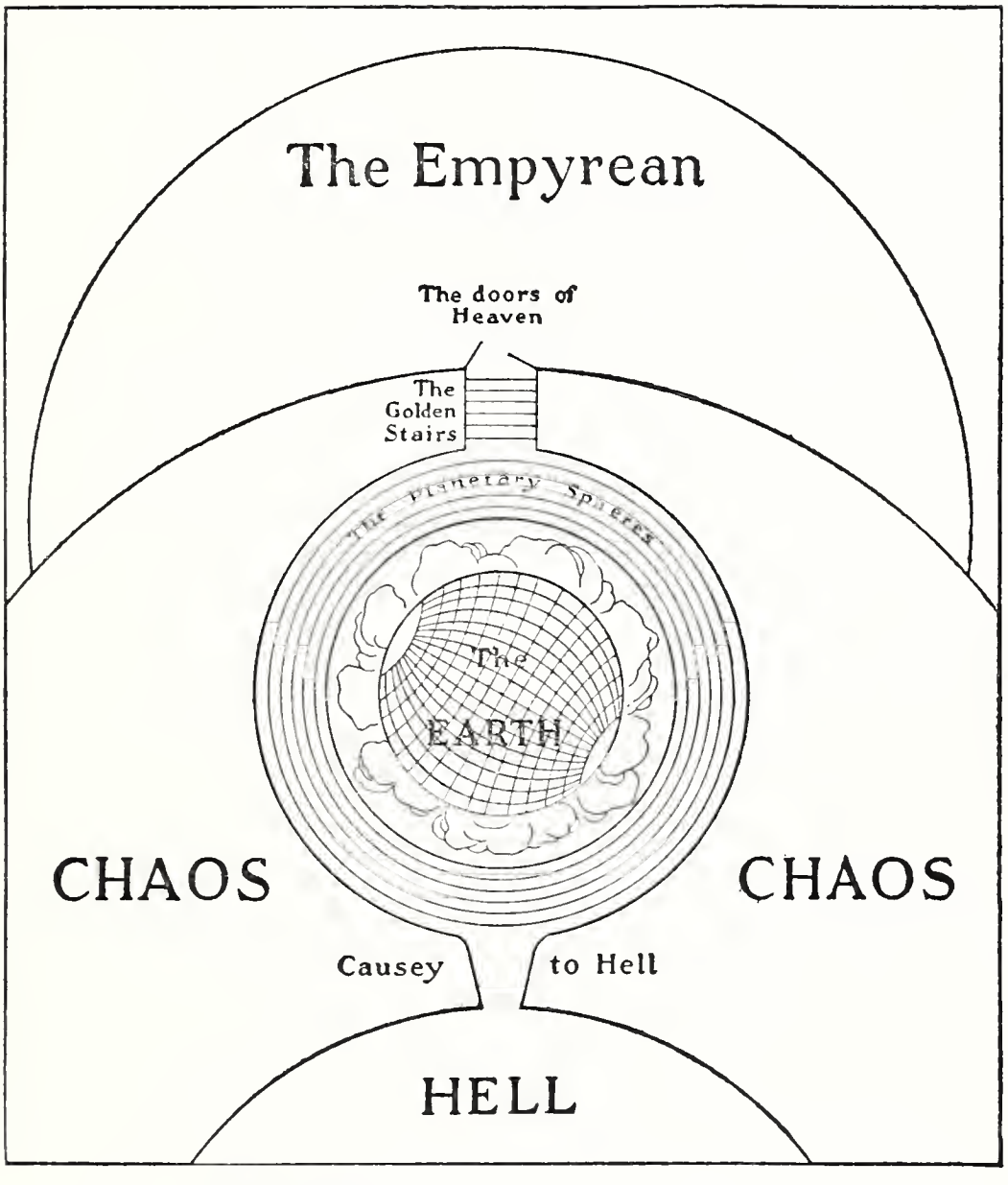
dise at its top just touching the heaven of the moon, so that the purified spirit may pass on conveniently to its reward.

Hell lies, also conveniently, on the inhabited side of the earth, a vast crater, four thousand miles across, thinly roofed by the earth's crust, the hole made where Satan struck when he was hurled from the empyrean. This conical underworld, nine circles around its sides, has its narrow tip just at the earth's center.

In brief, then, for Dante and contemporary churchmen, hell is inside the earth, as for Greek and Jew; the heavens, including the highest of all, surround the earth on all sides; paradise is beyond the moon. There are virtually no Biblical elements in the cosmology.

Milton compromised. "Paradise Lost" repeats the old Biblical-Egyptian doctrine with its three-storied arrangement, though the universe, for Milton, has grown to almost Alexandrian dimensions. But the space between the roof of hell and the floor of heaven is not the habitable earth and the air above it. The earth itself, surrounded by the ten crystal spheres of the Alphonsine system, hangs suspended in the midst of chaos, Jerusalem up, by gold chains from the floor of the empyrean.

Thus, for Milton, the highest heaven, unlike the rest does not surround the earth; hell, older than the earth, is below, not inside, it; and there



MILTON'S UNIVERSE, 1667–1674

Adapted from Gurteen.

is no purgatory. There is reason for thinking that this entire scheme, so far from being original with Milton, is to be traced back, substantially unmodified, as far as the Anglo-Saxon Cædmon of the seventh century. "Paradise Lost" is, to be sure, poetry; but it reflects what men did once really believe. It reflects also the *Weltanschauung* of the men who largely made for us our Protestant theology.

The long battle between the Roman astronomy and the older Alexandrian, which Copernicus revived after 1540 and Galileo, Kepler, and Newton argued out, is too familiar to need summary. We miss, however, most of the point of it all, unless we bear in mind that science won its battle largely with theological weapons.

"In Adam's fall
We sinned all,"

and the resulting corruption involves the whole of nature as far out as the sphere of the moon. Beyond this and including the moon itself,

"*Die unbegreiflich hohen Werke*
Sind herrlich, wie am ersten Tag."

The floor of the lowest heaven is the boundary between nature and the supernatural. Everything in the celestial realm is perfect and unchanging.

The Copernicans, therefore, being quite unable to prove directly that the earth moves, and being, in fact, for some seventy years after

Copernicus's death, equally unable to reconcile their theory with the observed behavior of the planets, concentrated their attack on proving changes and imperfection in the wrong place. Tycho Brahe, already wakened from his dogmatic slumbers by the remarkable temporary star of 1572, was able to show that the great comet of 1577 lay beyond the moon, because, unlike the moon, it did not measure any larger when directly overhead than when low in the sky, although some four thousand miles nearer. So the heavens do alter; and comets are not caused "by the ascending from the earth of human sins and wickedness, formed into a kind of gas, and ignited by the anger of God." What was practically more important, they are not to be frightened off by any ringing of church bells or suppressed by papal bulls.

"He was a great magician, Tycho Brahe."

After 1610, Galileo's opera glass showed mountains on the moon, and so proved that one at least of the heavenly bodies is not smooth and perfect. In vain did the churchmen of the day maintain that the lunar peaks are not at the moon's surface, but are overlain by an invisible crust as smooth as doctrine demands. Galileo retorted with invisible mountains ten times higher than the real ones! Very properly, under the circumstances, contemporary theologians refused to

view the moon at all. There are, of course, no mountains there, else Aristotle would have mentioned them. Still, if we did look, unquestionably the Devil would make us see mountains. So why risk being led into temptation?

Finally, Kepler proved that the planets do not move in circles at all, but in ellipses; and the whole system of crystal spheres came crashing down about the ears of saints and angels, greatly, no doubt, to their astonishment.

All this somewhat lengthy tale has three very practical results.

In the first place, no man can read the Bible, no man can interpret any historic creed, to make out whether he believes it or not, until he can place text or article in its astronomical setting. "For in him," for example, says St. Paul, "dwelleth all the fulness of the godhead bodily." But the "fulness," the "pleroma," is the region above the planetary heavens, substantially Milton's empyrean, where dwells the Unknowable God, ministered to by seven or eighteen or some other number of his personified attributes — Wisdom, Reason, Life, Thought, Righteousness, Peace, Truth, and the rest. Not to know this is to miss much of the apostle's point. So, too, for another example, with the last half of the Apostles' Creed. It presupposes the Jerusalem astronomy. Without this, it has no meaning. Or, again, the whole half-religious pseudo-science of as-

trology, out of which even Kepler made a living, and which has still so much following that the "Atlantic Monthly" has been carrying the advertisement of a professional astrologer, has no point at all unless the human soul, coming down from God at birth, passes through the planetary heavens, and so picks up the special qualities of the beings who inhabit each.

In the second place, the entire Biblical story and nine tenths of Christian history are based on a universe that does not in the least resemble that in which we actually live. The story would have been differently written, the theology derived from it would have taken a different turn, the dogmas added to it would have been of quite a different sort, if the men who wrote out the story and thought out the doctrine had known as much, let us say, as Aristarchus knew before 200 B.C. Our traditional theology rests on an astronomy which we have not believed for two hundred years and shall never believe again. Therefore, our religion hangs in the air. That is, in no small part, what is the matter with us all.

And, finally, not only our formal doctrines, but much of our poetry and especially our hymns, much of our art, much of our prose literature, all these portions of the Bible which we quote and read, everything, in short, which gives the emotional color to our religious ideas,

all fit a universe which we do not believe to exist and which we cannot imagine in any such vivid fashion as our fathers did. Who nowadays fears a hell which is only a metaphor? How shall men strive for a heaven that is only a figure of speech? Men can see an undiscovered country with the eye of faith and order their mortal lives so as to find it, whether they put this country under the earth, or in the sky, or on the blessed isles somewhere between the Persian Gulf and the west coast of Ireland. They can also look with hopeful mind to a hereafter in a world of pure ideas with no local habitation. But they cannot do both.

CHAPTER VI

THE FOUR SOURCES OF OPINION

BUT how, after all, do men find the answer to any question? How do we make out, for example, the shape of the earth, or the number of the stars, or the location of purgatory, or the date of creation, or the size of the moon, or anything else that we happen to want to know? Practically, of course, and immediately, we ask somebody else. Ultimately, men have depended on one or other of four different methods of arriving at truth.

First, apparently, both as the reaction of the individual to a new situation, and historically for the race as a whole, comes the method of common sense. Any fool can see, we say — and go ahead. If the event proves that the guess was right, we do the same thing next time. If we guessed wrong, we guess again. Given time enough, somebody will find the answer to every practical problem, and know the answer to be right because it works.

"A burnt child dreads the fire." In addition, the burnt child acquires certain information concerning heated bodies and flame. If enough people carry through the same experiment, the

results get included in our folk-lore or assembled into such documents as the Book of Proverbs. If the matter is vital enough to have survival value, natural selection takes the matter in hand, and builds the information into the nervous system. All knowledge among the lower animals seems to be of this sort, from the protozoa up. Either the creature itself tries some act at random, tries it again if it works, or tries something else if it does not, until the habit forms; or else whatever causes there are that do such things evolve an instinct. Nine tenths of our own human knowledge is also of this same burnt child type, habit or instinct or tradition, built up by the method of trial and error.

A few persons, among favored races, on a few special subjects, and then, not often, reason. When they do reason, practically and historically the reasoning takes one or other of three forms.

Given the more or less spontaneous ideas of common sense, we may analyze these systematically, criticize each in the light of all the rest, reject at least one of each contradictory pair, and thus, in the course of time, develop a set of opinions that are internally self-consistent, however much they quarrel with the common-sense aspects of the outer world with which they started. This is the method of philosophy. Historically, it is the first advance from the pre-human "method of fumble and succeed." The

Greeks, of course, especially the Ionians, were the first western people who really did anything noteworthy with this method of transcending experience.

Or, again, we may take the data of common-sense experience, and criticize this in the light of other experience of the same sort. We shall speculate as freely as any philosopher; but we shall check our speculations, not by inner consistency, but by outward fact. We shall, in such case, hunt after facts which do not come of themselves; and when we can, we shall experiment. This is the method of science. This also was an invention of the Greeks.

Common sense, science, and philosophy are, then, three different levels of insight into the nature of the universe. Crude common sense takes the endless confusion of this buzzing, booming world, and sorts it out into some workable order. The device, therefore, comes to its limit when it has made the world livable. Science, thereupon, takes the assumptions of common sense and criticizes these in the light of more accurate and wider knowledge. Science comes in its turn to its limit so far as the world becomes predictable. Then, finally, philosophy criticizes the assumptions of science, endeavoring to make the world comprehensible. Thus far, on the whole, philosophy has been rather less successful than its partners.

There remains, however, still a fourth method of acquiring information, which does not belong anywhere in the common-sense-science-philosophy series — the method of theology. Theology employs the same free speculation as the other three. It rejects its failures in the same fashion. But its test of truth is neither workability, nor the facts of nature, nor inner consistency, but conformity to some datum assumed as already fixed.

This ultimate authority is, of course, widely diverse for different theologies. It may be the Old Testament. It may be the New Testament. It may be the Church, teaching a great deal which is not in either. It may be the Koran. It may be the works of Aristotle. But always and everywhere the theological method of discovering truth assumes that some one or more persons know something important about the universe which the rest of mankind cannot possibly discover for themselves.

One gets the sharpest idea of the relations among these four methods of exploring the universe by considering an actual case which, historically, has been handled in succession by them all.

Such, for example, is our old problem of the figure of the earth. Common sense, of course, always answers at once that the earth is flat; and proves its case by the fact that men do, on

that assumption, find their way across country and from port to port. After all, the earth really is flat within the probable error of the original data; and it is not round within the probable error of the data now available. So we really do not now know what shape it is. What we do know nowadays is science.

But the Greek philosophers attacked the problem from another side. What, they asked themselves, is the perfect figure, the ideal solid? If we can decide on that, then we shall know the shape of the earth. The perfect solid, said some, is the cube; therefore the earth is a cube, and we live on the upper surface. Not so, responded others; the ideal figure is the sphere, and the earth is round. Thereupon arose Anaximander, the Hegel of his day, and pointed out that, since the cylinder combines the properties of both cube and sphere, the cylinder is the ultimate figure, and the inhabited earth is the upper surface of that geometrical solid. Philosophy, in the western world, was just trying its wings. Naturally, it flapped.

As always, given a sufficient number of philosophers, some one of them is bound to arrive at the correct opinion on every possible question. The practical difficulty is to make out, in any special case, which philosopher it is. In the end, the one who happened to guess right commonly gets rather more credit than he really deserves.

Nevertheless, taken in the long run, the method of philosophy has abundantly justified itself by its results.

We have already seen at some length the results of applying the method of theology to a comparatively simple astronomical problem. The "sacred theory of the earth" which culminates in the cosmology of "Paradise Lost" is one of the outstanding monuments of human folly. It sent several scientific men to prison and two or three to death; and it held back the progress of Europe for a century. And yet, once granted the truth of the main presupposition of all theology, there is no escape from the opinion that John Milton was right and Sir Isaac, his contemporary, wrong.

Here, then, is the basal weakness of all theology, that it is always at the mercy of historical accident. If the men who wrote the Bible had chanced to know less about Babylonian science and more about Greek — having no science of their own in either case — the whole history of Christian thought might have been profoundly different. No man, for example, who knew the inside of the Alexandrian observatory could have written the Revelation of St. John the Divine.

Or suppose the story in the Synoptic Gospels shifted a hundred years forward or back in time, or a hundred miles east or west in space. As they stand, the Synoptic Gospels teem with devils.

Half the incidents of Mark are concerned with them. But there are no demons in the Fourth Gospel. The Synoptic narrative happens just to hit a psychic epidemic. Therefore, for some seventeen hundred years, Christian theology made the existence of devils a cardinal doctrine of Christian faith. Incidentally, the doctrine caused the death of a good many thousands of entirely innocent persons accused of witchcraft.

One gets a particularly good idea of what theology was like in its palmy days from one of the important happenings in the early history of modern science, the trial of Michael Servetus at Geneva in 1553. Servetus was the leading naturalist of his day, and among other important labors he had brought out an edition of Ptolemy's old geography, that being still, on the whole, in spite of its more than a thousand years of age, rather more reliable than any contemporary work. The indictment against Servetus specified, among other high crimes and misdemeanors, none of them of the least consequence, that the defendant had, in this work, described the Holy Land as a rather sterile country, not in the least given to flowing with milk and honey.

To this, the defendant made answer that, whether the statement was correct or not, he himself was in no wise responsible, since he was not the author, but only the editor, of the work in question. The court, on this point, ruled for

the plaintiff. If a heathen author contradicts Holy Writ, a Christian editor who lets the text go unaltered makes himself equally guilty.

Overruled on this point, the defense fell back on the matter of fact, and submitted abundant evidence from travelers and others, to the effect that Ptolemy was right and the Bible, as a contemporary document, quite in error. Palestine, in the late Middle Ages, was demonstrably not in the least a garden of the Lord. Again the court ruled against the accused. On questions involving points of doctrine, all testimony as to matters of fact is excluded.

So they burned Servetus in the city square; and the war was on, the three hundred years' war between evidence and authority.

The result is that, to-day, we have n't any theology. Nominally, indeed, we have; but what little we pretend to is only a survival from the past, with no life of its own. The whole conception of a uniquely and literally inspired text, or a uniquely and infallibly guided church, empowered to set limits to the range of opinion, which is the basis of all theology, has simply disappeared, and that within hardly more than a single generation. An old-fashioned doctrinal sermon cannot be preached to-day, because no modern clergyman knows enough Christian doctrine to last out the hour. If it were, it would empty the pews. Neither clergy nor laity

have so much as heard the names of most of those essentials of the Christian faith for which holy men of old endured exile, prison, and death. Most of us, to-day, know just about as much concerning Anabaptists, Homoousians, and Semi-Arians as we know concerning kobolds, afrits, and warlocks — and we commonly care rather less.

Only once before in history has so vast a system so completely and so suddenly collapsed. Magic, in its day, was also "Queen of the Sciences." It had its practitioners and its schools. It was believed "*semper, ubique, ab omnibus.*" In fact, time has been when theology and magic together covered just about the ground now taken care of by philosophy and science. Theology explained the universe; magic controlled practically the forces of nature. A great theologian of the Middle Ages spoke to the learned world with the authority which now belongs to the great investigator. A great magician had much the popular following of Edison and Marconi. Yet only students of history nowadays know that there ever was any such thing as magic. The generation now growing up is only dimly aware that there was ever any such thing as theology.

And the world is vastly better off! Think, for example, how much more mercifully, and how much more efficiently, we care for the insane,

now that we have ceased to believe in devils; how much better we are beginning to handle concrete evils and definite negligences and ignorances, as we get clear of the theological abstraction, "sin"; how much faster is the progress of useful knowledge, now that discoverers no longer face an interview with any Court of Inquisition. Think how much better off the Mohammedan world would be if only it would stop believing the Koran.

Theology, in short, the whole conception of any sort of past that has authority to set limits to opinion in the present, does not belong to our world-view. So far as theology explains the religious life, that task is much better done by psychology, historical science, and the philosophy of religion. So far as theology explains the universe, it merely keeps alive the bad science and the bad history and the bad philosophy of the days of ignorance. Men were religious long before they discovered dogma. The most devout men and the most righteous have commonly bothered their heads least over points of doctrine. The race which has done most for religion had, in its best days, neither theology nor philosophy nor science. The great prophets of Israel were conspicuously persons who did not make anybody's creed their jailor.

So really, to-day, in spite of too numerous survivals, we have only three sources of opinion,

not four. Practically, much that passes for theology is really philosophy, or history, or Biblical exegesis, or sometimes rather bad natural science. Proper theology, as the world knew it two centuries ago, is as far away from us now as the magic of two centuries earlier than that.

CHAPTER VII

SCIENCE AND THINGS-IN-THEMSELVES

THE end of science is prediction. Any branch of knowledge "arrives" finally, just so far as it can say with certainty that such-and-such phenomena are about to occur.

Unfortunately, no one of the actual sciences ever quite attains this ideal, not even astronomy, which on the whole comes closest. The theory of the moon's motion is still so far incomplete that the predicted declinations and right ascensions have to be adjusted from time to time to match the place where the lady actually is in the sky. In fact, the lunar tables of the Nautical Almanac for 1923 had to be entirely refigured just before the volume went to press; and the solar eclipse of the autumn before was fifteen seconds off schedule.

The object of this scientific prediction is, in part, practical convenience. When we know what is going to occur, we can commonly more or less adjust ourselves to the inevitable. Moreover, with the progress of knowledge, we are able more and more to control the future for ourselves, so that, if we do not happen to like what is apparently coming, we can have some-

thing else instead. The method of science justifies itself by the fact that its predictions do nearly always come off almost right.

For this, they have to be pretty specific. If we build a bridge of such-and-such material, after such-and-such a design, the structure will stand up under such-and-such a load. Whoever takes the trouble to be present at precisely such-and-such a point on the earth, at precisely such-and-such future date and time of day, will see the sun darkened for just so many minutes and seconds. The litter of a white rabbit with long ears, mated to a short-eared black, the ancestry of both being known, will contain such-and-such a proportion of black-and-white young, having such-and-such a length of ear. If the Government prints so many paper bills, so much gold will go out of circulation. "The entire task of science," writes Ostwald, "is to establish such relations among measurable quantities that, some of these quantities being given, the others may be deduced."

Much of the work of science is, so to say, backward prediction. If competent astronomers had been present on the earth at a series of past dates some seventy-odd years apart, they would have recognized, in the awful portent of the sky, the same old Halley's comet on another periodic return. If there were men in eastern North America toward the end of the Pleistocene, they

saw a lobe of the Labrador ice sheet lying with its southern edge on Cape Cod. If we ever do recover the original autograph of the Gospel according to St. Mark, it will not have the ending which is the basis of that in King James's version.

Much scientific prediction, moreover, virtually all of it in the applied sciences, takes the form — not, given the premises, what will be the result; but, given the desired result, what conditions must be selected to bring this about? The sailor, for example, properly equipped, can always answer the question: Suppose I steer in this direction, where shall I strike land? But he actually does set himself the problem: In which direction must I steer in order to reach the port where I desire to go? Both forms of the problem, however, involve prediction; the second quite as truly as the first. Science, as it grows more practical year by year, tends more and more to make its predictions of the second type.

Now it would be quite possible, given a highly scientific astronomy, geography, oceanography, and the rest, to help out the silly sailor, by printing him a list of all ports, with instructions for reaching any one of them from any of the rest. Practically, this in not done. The sailor has his chart, on which is represented in quite arbitrary symbols a vast deal of accurate information concerning sea and land. With the aid of

this, the sailor, even in unfamiliar waters, finds his way wherever he desires to go. The chart, then, is a highly convenient but also highly conventional representation of actual land and water, by means of which the navigator attains his ends vastly better than he could by attending only to the real water and the actual land.

Not otherwise is it with the chart of the universe which we call the body of scientific theory. Modern science is a highly conventional, very detailed, extraordinarily accurate model, by means of which men remember, or describe, or anticipate, or control occurrences incomparably better than they ever dreamed of doing in prescientific days. But the world of science is not the real world, any more than the blue areas on the seaman's chart are real sea. The painted ocean of the navigator is, for certain special purposes, a great deal better than the real sea — but one cannot catch fish out of it. So the ideal world of natural science is, for very many uses, a great deal more illuminating than the real world of experience — but human beings do not live in it.

Science is, then, for the last three hundred years, engaged in constructing an imaginary world, which so far corresponds, bit by bit, with the real world, that men get on by its aid in the real world as much better than they used, as a modern coastwise freighter has the advantage

over the ships of Cabot and Champlain. But men of science and sea captains alike, sail by their charts, not on them.

Our physics, for example, deals with frictionless fluids, weightless levers, rigid solids, perfect gases, none of which exist in the real world, but are parts of an ideal universe which science has spun out of its own head for the sake of dealing handily with the excessive complexities of things as they actually are. Even our time of day is not based on any behavior of the real earth out of which we dig a living; but on the revolution about the sun of a purely fictitious and scientific earth, which for only four instants in the year coincides in position with the real one. Our sundials belong to the real world. But our watches record only an abstraction of the astronomical mind.

Practically, this imaginary universe of science has to be eased off a good deal in places to fit things as they are. Virtually no "law of science," for example, ever holds quite to the limit of the best observation, and even then only through the middle range of the phenomena. Boyle's law, notoriously, breaks down for gases anywhere near the boiling points of their liquids. Playfair's law does not hold for a country that has been glaciated. The Relativists rejoice especially over showing why Prout's law never really works. Mendel's law is very far from taking all

the uncertainty out of horse-racing. In short, the whole conception of a universe "governed by law," and of "laws of nature," universal, immutable, which have to be "overruled," or "set aside," or interfered with by "the operation of higher laws," belongs entirely to theology, and has no place whatever in science.

In other words, while the facts of science are, in large part, facts of the real world, the theories of science and the laws of science are constructs of the scientific mind. Sometimes, as conspicuously in the natural history sciences, these constructs probably match somewhat closely the reality. But, even here, a scientific "species," for example, has no objective existence. The physical sciences, on the other hand, have quite frankly cut loose from all semblance of reality. The concept of the ether, not only flatly contradicts all that we have experienced concerning the properties of bodies; it is not even consistent with itself — a perfect fluid more rigid than steel, a weightless substance heavier than lead. Or, to jump across the great gulf between mind and matter, there is the subconsciousness — the thoughts that nobody is thinking. All this troubles no scientific person — though report has it that Huckleberry Finn was a good deal put out to discover that lands, red on the map, may be green in reality.

The method by which science constructs its

ideal world is, of course, by successive abstractions. We select some few aspects of the actual universe; then we imagine another universe in which these particular aspects of the world we know would appear, uncomplicated by all those other aspects which always bear them company in reality. This abstraction may be comparatively slight, as in the historical and social sciences. It may be carried to the last extreme, as in mathematics, where nothing whatever remains of the world of experience except points and lines and abstract number, none of which occur at all in the real world. Between these extremes lie the rest of the various sciences. But they all abstract something. None of them pretend to match the complexity of things as they are.

Nor is this method of abstraction in the least confined to natural science. All literature does it; and all art.

Of the graphic arts, for example, photography in color comes closest to reality. But painting begins by dropping out most of the detail. A crayon drawing in black and white goes another step along the same path. A pen-and-ink sketch consists entirely of lines, not one of which occurs anywhere in nature. Yet people buy etchings when they might have photographs.

Even our moralities are an abstraction. The Sermon on the Mount discusses the problem:

What sort of conduct would be appropriate for the kingdom of heaven, supposing this to be already present and universal, with all wicked persons conveniently out of the way? Thus, by the same method by which the Christian world has come to its science, it has come also to its ethics. But the world in which men may wisely resist not evil and turn the other cheek is still an ideal, an abstracted and artificially simplified picture of reality. In the world of everyday conduct, as in the various branches of engineering, there is always "the factor of safety."

I have been writing, all along, as if we men have to do with only two worlds, a real world of common-sense experience and an ideal world of science that is a simplified model of it. This, however, has been only for convenience. Everybody nowadays is supposed to know that the everyday world of common sense is itself only phenomenal. The true reality, the world of things-in-themselves, is pretty certainly something quite different. So, ultimately, we have to take account of three worlds, not two.

Just how far we of the phenomenal world have also direct access to the other world of realities, is not a matter on which it is wise to be too certain. Kant held the moral law to be part of things-in-themselves. Many religious people have believed that they have personal and incommunicable experiences that take them for

the moment behind the veil and show them transcendental truth. The followers of Herbert Spencer were convinced that they knew at least enough about the Absolute to be sure that nobody will ever find out anything more.

However these may be, modern opinion is pretty unanimous that we are citizens of three countries, concerned by turns with the affairs now of one and now of another. Sometimes we dwell in the world of science, with its predictable future, its forces and laws, its "uniformity." Mostly, we dwell in the phenomenal world, which for common purposes we treat as the real world, a world of freedom and struggle and hope. But we are supposed to reflect, occasionally, that the properties of this phenomenal world will not stand critical analysis. How far, as philosophers, we are capable of transcending both the world of phenomena and the world of science, is one of the matters which serious-minded men ought diligently to consider.

At any rate, we are concerned with three aspects of experience; and propositions true concerning any one of the three are not necessarily true concerning either of the others. An excellent device, therefore, for attaining to the acme of confusion, is to ignore all distinction among the relative, the absolute, and the scientific, and to treat the remarks of wiser persons concerning one of these as if they were intended to apply to

another or to all. A great deal of the hostility of many excellent persons to both philosophy and science has no other basis than this.

Or, if one does not like philosophizing, there is always the "double aspect" doctrine.

Every event of the phenomenal world looks two ways, has, in fact, two sides. Symphonies, sonnets, sunsets, various other interesting things, are all describable in terms of wave lengths and wave forms and time intervals and various specially shaped black marks on white paper. But one need not point out that if symphonies, sunsets, and sonnets had no other aspect than this, men would never have bothered to notice one portion of these, nor have gone to the labor of creating the other. All have another side, in which vibration numbers and printers' ink have no part.

The aspect of "description" and the aspect of "appreciation" are the technical terms, which, in English, designate these two sides of all occurrences. The words are not altogether happy; but there is no doubt what they mean.

One cannot say that either aspect of things is more "real" than the other. Each has its place in our mental life. Each serves its special purpose. Science is, obviously, limited absolutely to the descriptive aspect of everything. If science should ever attempt to transcend this limit, it would forthwith break down. There never will

be any such attempt, because this distinction between the two aspects of nature, and the limitation of natural knowledge to one aspect only, have been commonplaces of the scientific world, even from the days of Aristotle.

On the other side of the line lies the "world of appreciation," "God, freedom, and immortality," and all the rest of the "spiritual values" — though all these have, of course, also their "descriptive" side. But, unfortunately, the persons who have most especially concerned themselves with the appreciative side of things have seemed to be, by nature, an uncommonly muddle-headed lot, to whom any sort of logical distinction is a sealed book. They have, therefore, felt free to use any word in the language in any sense that pleased them, figurative or literal, and to attribute to other more careful persons whatever opinions emerge from the process. They jump back and forth from "appreciation" to "description" without noticing which side of the fence they are, for the instant, on. They repeat statements, obviously true in one sense, as if they had any significance in another. Much of the regrettable "conflict between religion and science," much of the regrettable hostility of sincerely religious people to all forms of "modernism," has no other basis than this carrying across of indisputable truths of the world of description into the world of appreciation, by

people who have never heard of the difference.

The wise man, therefore, whether scientific or not, and whether he chooses to think of himself as dwelling by turns in three worlds, or as sharing two aspects of one, will always ask himself concerning any proposition which he is asked to accept: To which world, or to which aspect of the world, is this formula intended to apply? For the rest, the non-scientific person will do well to bear in mind that all the conclusions of natural science with which he has any concern are already printed in some standard text or reference book. What cannot be found in these, and cited chapter and verse, is gossip and rumor and *obiter dicta*, for which the scientific world is not responsible. These two simple rules will save many worthy persons from a great deal of quite unnecessary sorrow of heart — and from a great deal of quite unnecessary confusion of mind.

CHAPTER VIII

PRIMITIVE SOULS AND GHOSTS

THE only way really to grasp any general idea is to turn historian. When one knows where the idea came from, who originated it and why, and how and why it has altered since at the hands of other men, then one may be reasonably sure that his mental teeth have bitten in. Anything much short of this leaves us still uncertain whether, after all, we may not, somehow, have missed the point.

All this is especially the case with very old ideas. These have nearly always changed their shape with the progress of the centuries, and therefore, as they now lie in our minds, contain remnants and survivals from many strata of past belief. Our words tend to persist long after the ideas have altered. Of no opinion is this more true than of our present-day conceptions of the soul. None, moreover, is more fundamental for religion. Concerning none is it more important that each of us should be fully persuaded in his own mind.

Now it happens that the difference between a living man and a dead man is one of the few scientific questions which early man felt called

upon to answer. By way of this problem — which is still unsolved — our forbears of the stone age took the first step of the long journey that has led to civilization. And since all of us men, everywhere on earth and throughout all known time, are brothers under our skins, virtually all of us, confronted with the same situation, have thought it through to much the same end.

So long as a man is "alive," his heart beats. The more alive he is — as, for example, when he follows his quarry in hunt or confronts his enemy in battle — the harder and faster his heart pumps. Moreover, all strong emotion obviously affects the circulation. On the other hand, when a man is "dead," then his heart beats no more.

Here, then, is a good working hypothesis: The "life" is in the heart, along with other qualities, good and bad. Presumably, therefore, if we devour the heart of strong beast or brave foe, all sorts of excellences will be added unto us.

But men do not stand to the aurochs nor wax valiant in fight, without picking up a certain amount of anatomy. The heart has a great deal to do with the blood; a bleeding man grows weaker, and then dies. Most peoples have followed the inevitable logic. The heart gets its properties by virtue of its relation to the blood. "The blood is the life."

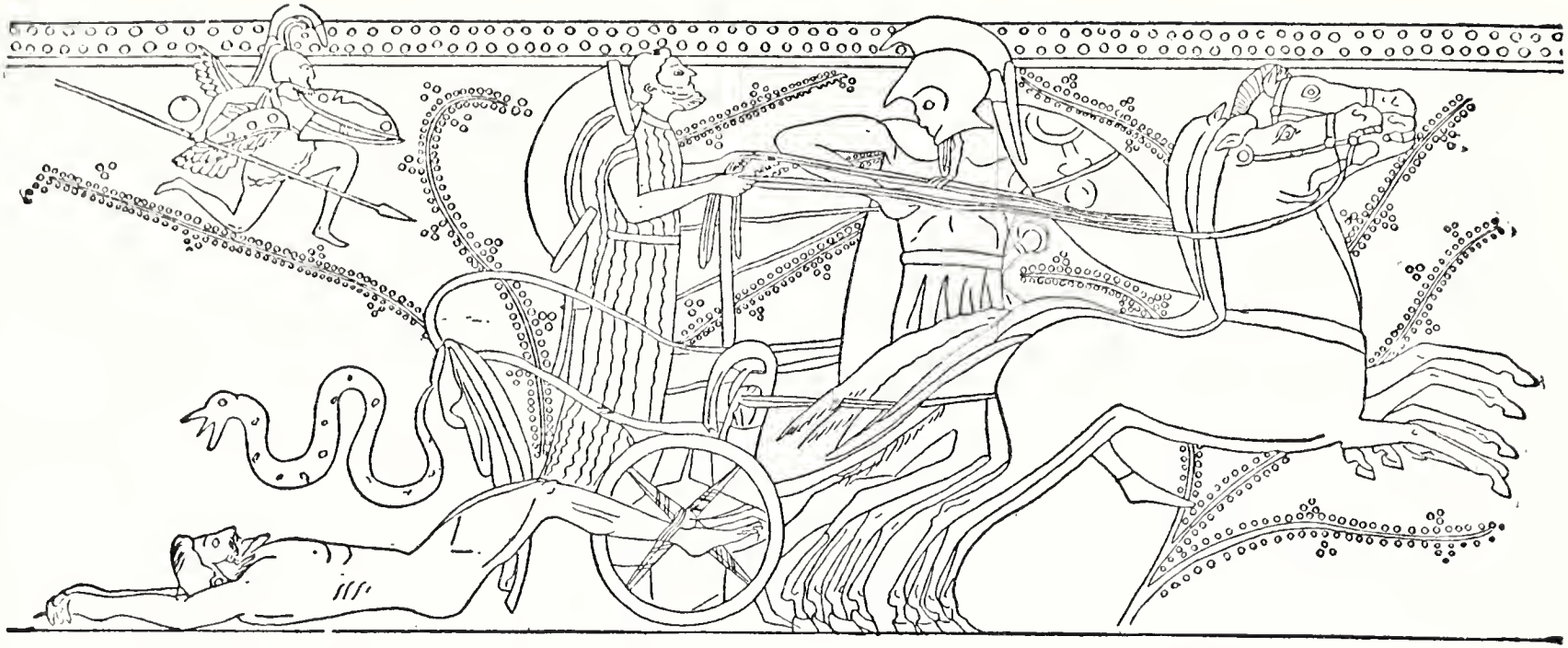
Oddly enough, as it turns out, the vital fluid is really about the least alive of all our tissues, and

about the least essential to that "continuous adjustment of internal relations to external relations," which is Herbert Spencer's definition of life. Many times more than half the living creatures on the earth have no blood. But prescientific man does not know either of these facts; and, given the facts that he does know, his reasoning is sound so far.

On the other hand, there is no more pervasive fallacy, nor more persistent, than that which explains a function by inventing an entity. We wonder how we remember; and we invent a "faculty of memory" to account for the mystery, and flatter ourselves that we are any farther along than we were before. Our love for our offspring has been referred to an "organ of philoprogenitiveness." Even well up toward the end of the last century, scholarly men could suppose that we differ from the brutes by virtue of a "power" of reason and a "gift" of speech, acting under the impulsion of a "will." We still attribute specific unrighteousness to a "state of sin."

Naturally, in less critical times, the same deep-seated human weakness resulted in the conception of a blood-soul.

One meets the idea in all sorts of forms. The clever damsel in Grimm's familiar *marchen*, to conceal her elopement, pricks her finger and leaves behind three drops of blood which answer in turn for her. "The voice of [Abel] thy



ACHILLES DRAGS HECTOR'S BODY ROUND THE GRAVE-MOUND OF PATROKLOS

Hector's ψυχή, winged and diminutive, flutters above the corpse.

From a Greek vase.

brother's blood crieth unto me from the ground." "And his soul," runs Homer's formula, "through the stricken wound, sped hastily away." Even the great Harvey, founder of modern physiology, placed the soul in the blood.

Such conceptions are universal in early religions. Wine is the blood of Dionysos; whoso drinks it becomes as the immortal gods. The initiate into the mysteries of Mithra gains his new soul by way of the bath in bullock's blood, which in turn connects with the mystic bull slain before the foundation of the world, from whose blood and body sprang all the kindly fruits of the earth. Doubtless, in all this there is a certain element of instinct; since men do have, apparently, an instinctive dread of blood similar to our fear of high places and snakes. Moreover, it is often difficult to separate the idea of a blood-soul from the magic properties of blood. Nevertheless, in most folk-lore, and in most primitive religion, and even in our own science in its callow days, there is a blood-soul which is not the blood itself.

Unfortunately for the clarity of mind of both the ancient world and ourselves, precisely the same reasoning that proves the life to be in the blood, proves it also to be in the breath. And breath is wind. And wind is air. And air is a great mystery, present yet impalpable, matter, and yet a finer sort. "And Javeh Elohim," says

the author of most of the second chapter of Genesis, "formed man out of the dust of the ground, and blew the wind into his nose, and man became alive."

But whether the life inheres in the blood or in the breath, this "life," for simple-minded antiquity, is never any "delicately balanced system of bio-chemical functions." The "life" is the same thing as the "soul," and the "soul" is always a material object. Naturally, therefore, any body which moves, or has any interesting properties of any sort, has also a "soul." Hence follows the universal primitive animism.

Inevitably, also, our physiological psychology had to be preceded by a psychological physiology. Descartes, for example, whose mathematics certainly was not in the least primitive, held that the soul, to move the body, runs out through trapdoors in the floor of the ventrical, flows along tubes within the nerves, and stimulates the muscles to contract. As for the location of the soul in the body, men who fight with pointed weapons put it usually somewhere in the trunk, as Aristotle, for example, in the heart. But cruder peoples, who bash one another's heads with clubs, put the soul in the brain, quite in the Cartesian manner. Samson's soul was, partly, in his hair. Even the parings of the nails falling into the hands of an enemy may give him a hold on one's life.

No reason, however, appears to the unsophisticated mind, why men or beasts or swords or stars should have only one soul apiece. The "life" which is in the breast and makes the heart beat need not be identical with that which dwells in the belly and is strengthened after meat. Early man, therefore, commonly has many souls, distributed variously over the body. Or sometimes, as among the Egyptians — a conception which survives among us still — each of the various souls, which in this particular case happen to be seven in number, occupies the entire body, and each has the complete shape of the body. But they are in successions of finer and finer matter, each interpenetrating all those less subtile than itself. So there are souls and ghosts and doubles and shades and spirits and astral bodies without end.

Names, also, are souls. For the name, for primitive man, is no mere assemblage of black marks in the telephone book, but a portion of the mysterious air, shaped by the lips into sound, a part of the man's own living breath, pregnant with all magic. Thus, for certain ancient Egyptians, the name-soul holds the other six souls together and gives the personal unity, while name taboos play so large a part in primitive life that we shall probably never know how the ancient Hebrews actually pronounced the dread name of their God. Glimpses of the name-soul still ap-

pear in such divers places as Grimm's tale of "Rumpelstiltskin" and the familiar formula of Christian baptism.

Nor need a soul be inside the body at all.

The shadow is, of course, one of the souls. So are the footprints. There are social circles where it is very bad form, indeed, to step on another man's shade, where "may your shadow never grow less" is by no means a figure of speech, and where men feel distinctly easier in their minds at night and morning than at noon. Men, also, lose their shadows, as they lose their other souls. One wants to look out lest some shadowless person steal his; and, in general, any being who does not cast a shadow is always under suspicion.

Not a few savages, before setting out on a journey or going into battle, take precaution to deposit one or more of their souls in the care of the local medicine man against their safe return. Ogres, giants, and the like, it is well known, often hide their souls in some distant or unlikely spot, and so remain invulnerable, until the hero of the tale discovers the secret and squeezes out the life. The rational soul of "Orlando Furioso" flew away to the moon, and Orlando went crazy until his friends brought it back to him in a bottle, and uncorked the bottle under his nose.

All guardian angels, "good angels," dæmons, fravashis, and the like, are essentially such ab-

sent souls, which may keep near their owners as *Doppelgänger*, or, like those of Matthew 18:10, may dwell always with the gods until their bodies join them. Certain ancient Egyptians, for example, believed in an invisible guardian companion, which walks by each man's side throughout life, leaves him shortly before death, precedes him to the future world, prepares a place for him there, and welcomes him on arrival. Then, for the first time, the two are united and live happily forever afterwards, the double providing the new "spiritual" body to replace that left behind in the grave.

But once given the idea of a soul outside its body, it is only the shortest of steps to the idea of non-human intelligences, spirits that have never had flesh-and-blood bodies. Angels, devils, and certain types of gods are of this origin. Angels, originally a Persian discovery, have bodies of flame, and connect interestingly with the shooting stars.

On the other hand, there are those strange creatures of our folk-lore — gnomes, elves, fairies, and the rest — who have all the attributes of personality, but have no souls, and, therefore, though they live a thousand years, finally go out like a candle. There are

> "... the dancers of the woods,
> That know not the hard burden of the world,
> Having but breath in their kind bodies ..."

who yet

"would love as men do,
And be as patient and as pitiful."

Who does not recall those touching stories, found in various parts of the world, in which, as in the "Thousand and One Nights," the soulless elemental being shows so much goodness and fortitude and constancy, that the All-Merciful, in the end, grants her a soul, that she may dwell with her lover in paradise? It has been a long process by which men have come to associate either the intelligence or the moral nature with the "life"; and we still sing

"*My* soul, be on *thy* guard!"

— as if our souls were not really us.

With us mortals, obviously, at least one of the souls departs from the body during sleep, wanders about, and meets all sorts of strange adventures in a world which to primitive man is just as real as the waking one. To add to the excitement of the dream, the wandering soul is always taking the chance that, on returning to its body at daybreak, it may find its habitation occupied, perhaps by the soul of another sleeper, or of a dead man, or, more likely still, by an evil spirit, who, having no body of its own, has slipped into an open mouth. The soul of the Reverend Father Alberigo, in Dante's account, has gone to its rest in the ninth circle of hell, while his body, in-

habited by a demon, is doing business as usual in the upper world.

Hence, in all ages, the need of casting out devils. As late as James I, in England, the Convocation, to avoid scandal, forbade the lesser clergy from exorcising possessed persons except by permission of their bishops. For the student of obsolescent opinion, there is no more bizarre chapter in history than that which deals with the relation of spirits to other bodies than their own.

Fortunately, however, for us, the peoples with whom, historically, we have most to do, finally reduced all these multifarious sorts of soul to two only in addition to the mind, both, so to say, resident in the body. These are, in ancient terms, the *pneuma* and the *psyche;* or, as we are wont now to call them, the breath-soul and the body-soul. Both are, of course, ultimately identical with the life, and explain why living creatures act as they do. Both, moreover, however tenuous, are always somewhere in space, and therefore are "matter" and not "mind."

The body-soul inheres especially in the flesh and bones and blood. People who believe in a body-soul commonly bury their dead. They may decorate the tomb with pictures, for the soul's amusement. They may kill slaves or wives at the grave, that their body-souls may minister to the departed. Almost always they

set out food, at least once, and often from time to time, or pour out libations on the ground for whatever souls happen to be near. Luckily for the archæologist, they commonly bury ornaments and weapons; though unluckily they frequently "kill" these latter, by breaking off their points to let out their *animæ*.

The body-soul is thought of as lingering near the grave, sid, tumulus, or cairn, or as actually in it, in shape more or less like the original man in life or the skeleton to which he is shortly reduced. The mourner goes to the burial-place to weep, leaves flowers there, or burns paper images, as his own birthplace chances to be. Our own ceremonial laying of corner stones, with objects buried under them, survives from a day when men were buried in the similar location in order that their body-souls might guard the building.

Our own ghosts are, of course, body-souls. We fear graveyards between midnight and cock crow, because that is the time when body-souls are out, and who knows what they might not do if they caught us? For special reasons, body-souls, instead of keeping near their tombs, may haunt their old abodes. On special occasions they may "squeak and gibber in the Roman streets." On very special occasions, indeed, they may return to their former bodies, which thereupon rise up and walk, to the considerable em-

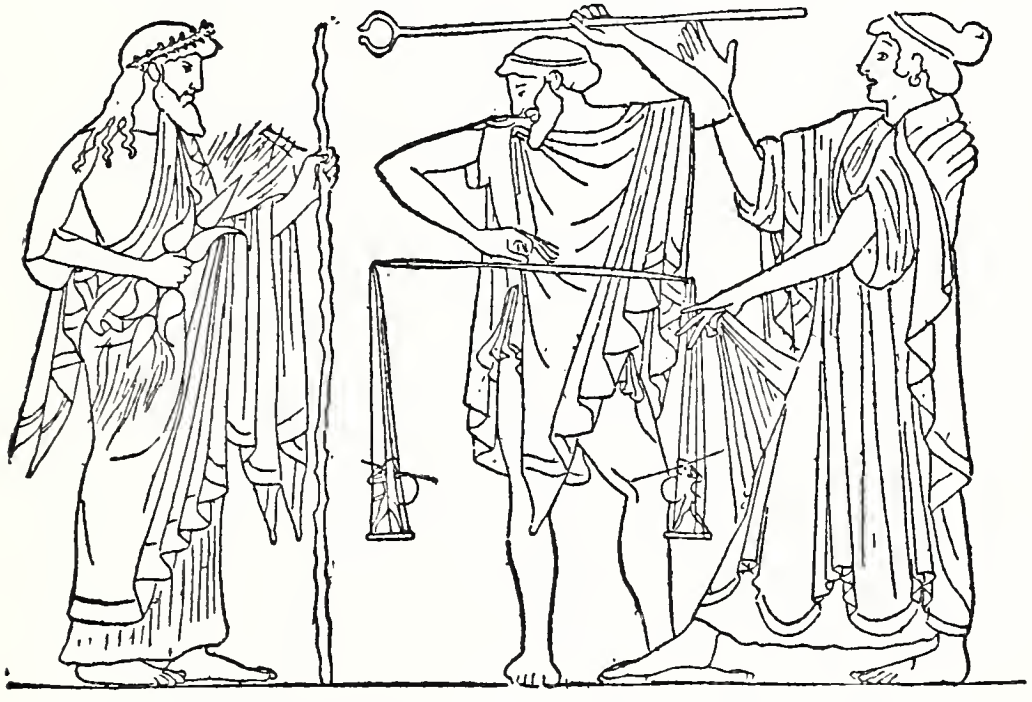
barrassment of the timid living. In fact, no small part of primitive theology is concerned with devices for keeping the ghosts out of the villages; and the first tombstones seem to have been to hold the dead man down.

In general, fortunately, the body-soul stands faithfully by its bones — hence the virtue of saints' relics. But it will also associate itself with other personal property — hence the value, for the psychometrizing medium, of gloves, handkerchiefs, photographs, and locks of hair. In fact, body-souls seem to be glad to get inside anything. The costliest idol that ever came out of Philadelphia has no special virtue until some homeless spirit enters in and dwells there.

People who believe in a breath-soul take just the opposite tack. They do not bury food or weapons. They do not embalm. On the contrary, they commonly burn the dead body, to get it out of the way as quickly and as thoroughly as possible, so that the breath-soul, cut free from earthly entanglements, may fly away to its everlasting habitation.

Unfortunately, however, not many races have held either theory of the soul and the hereafter without some admixture of the opposite opinion. Cultures migrate, are borrowed back and forth, are impressed by conquest; with the practical result that most of us, confronted with a choice of opinions, choose both.

The well-greaved Achæans, for example, are descendants of a primitive people who believed in a breath-soul and burned their dead; but they overran a more advanced race that believed in a body-soul and buried theirs. So they compro-



THE SOUL-WEIGHING (*ψυχοστασία*) OF HECTOR AND ACHILLES

As the heroes face each other in battle, Hermes, in the presence of Zeus and Thetis, tests their psyches to determine which is to fall. From a Greek vase.

mised the matter by believing one way and acting the other, quite in the modern manner. In the end, they achieved a ritual which first burned the dead man to get rid of his body, and then carefully preserved his ashes, as if they had buried him.

Nobody knows what Christians nowadays do

believe. Our ordinary language hints at a breath-soul which goes, at death, straight to heaven or hell — unless it lands in purgatory. But our burial customs suggest a body-soul that has a very special interest in its grave. Most of us are opposed to cremation. Few of us are quite at ease in a churchyard in the dark. Apparently, somewhere in the back of our minds is the immemorial doctrine of two souls, one of which remains near the body while the other flies away. But since, this side of the thirteenth century, we are supposed, as a matter of theology, to be limited to a belief in one soul only, most people, so far as one can make out, fuse *pneuma* and *psyche*, and think of their dead as simultaneously both in the grave and in heaven. One cannot but wish that there could be somewhat more general agreement on some of these points.

But whatever we think now, we can hardly understand much that men have written in the past unless we keep in mind the ancient trichotomy of body, soul, and spirit.

One can hardly, for example, get the whole force of several of St. Paul's most striking passages, unless one reads, in some measure, with the eye of a first-century Corinthian, familiar from his youth up with breath-souls on one side of the diaphragm and body-souls on the other. "For who among men," writes the apostle, "knoweth the things of a man save the pneuma of a man

which is in him. . . . But the psychic man receiveth not the things of the pneuma . . . and he cannot know them because they are pneumatically judged." "There is a psychic body; and there is a pneumatic body. . . . So also it is written, The first man Adam became a living body-soul, the last Adam became a quickening breath. Howbeit that is not first which is of the breath-soul, but that which is of the body-soul and afterwards that which is of the pneuma."

Or take the long controversy in the early church over the origin of the soul. The opinion which finally came to be orthodox, and which, therefore, we are all supposed to hold, is that whatever besides the body finally survives death, for better or for worse, is a breath-soul, new-created for the occasion, and sucked into our lungs with the first mouthful of air, there to remain till it goes out with the last. But, for Traducians like Tertullian, the immortal being is a body-soul, always material, sometimes visible, begotten of one parent and conceived by the other precisely like the body which it animates. But Origen, who remained always half heathen, held to an immaterial "mind-soul," preëxistent, as mind-souls commonly are, and subject to metempsychosis into other bodies.

So is it everywhere with most of our literature, especially our hymns, with most of our half-subconscious thinking, and with most of

the history of thought. One cannot dip into these anywhere without striking shortly, along with some bit of primitive astronomy, some other equally primitive idea of our having one or more souls.

But, unfortunately, souls, in any ancient sense, simply do not belong anywhere in our present-day world-view. A generation of compulsory physiology in the common schools has made the public familiar with the modern scientific conception of the human body as a very complicated machine, though only persons who devote their lives to its study have any idea how complex it is, with its single nerve cells like winter trees against the sky, and its more separate parts than there are in all the automobiles that ever came out of Detroit. But, after all, the body is essentially a system of levers and pipes operated by a gas engine, and regulated — certainly in part — by an elaborate system of automatic controls, that are not fundamentally different from the temperature compensation of a good watch. Sometimes the machine gets out of gear. Its parts sometimes break. In the end, it wears out and stops. There is not the least evidence that any soul, spirit, breath, psyche, pneuma, or the like, is anywhere involved.

There is, to be sure, a considerable body of fact which goes to show that the more or less self-conscious "mind," which, as a matter of ex-

perience, does, apparently, pull a muscle when we wiggle a finger, is also concerned, less consciously, when we mend a broken bone, and does, in some fashion, oversee all the bodily processes. But this New Vitalism, which belongs, of course, to our present-day *Weltanschauung*, is altogether a different matter from the ancient doctrine of spirits. The old vitalism, which assumed some sort of soul, vital principle, or the like, survives only in the vocabulary of religion. Between a bodily machine that runs and a mind that runs it, there is nothing left for souls to do. *Non sunt multiplicanda entia sine causa.*

Along with souls there must inevitably go by the board all spirits, devils, angels, and witches. Devils were convenient to explain storms, disease, especially mental diseases, and the perversity of men who do not believe as their betters tell them. But even criminal indictments no longer read "by instigation of Satan"; and, as Laplace remarked in a similar connection, we "have no need of that hypothesis." With devils went, of course, witches.

Yet how recent it all is! The King of England who gave his name to our version of the Scriptures was a zealous witch-finder, who made existence very burdensome to certain of his subjects whom he suspected of endangering the royal life by blowing up a storm when the king was on his way home from Denmark. Eminent

ecclesiastics, Wesley among them, stood valiantly by witches and devils almost up to the time when the old vitalism began to break down as the result of Lavoisier's work on the body temperature of warm-blooded animals, shortly after the American Revolution. The diabolical control of bodies and the divine right of kings went out about together.

Angels belong to a cosmology in which an absentee God, a sort of Business Manager of the Universe, sits aloft in the highest of his heavens, dispatching his messengers or blowing his breath whenever he wants anything done. They have no place in our modern conception of an immanent deity who acts directly and continuously on the world. Sir Isaac Newton's time marks about the end of the old theory that brought in angels to account for any natural phenomenon — unless, of course, we count as essentially angels the personified Natural Laws by means of which, in certain quarters, God is still supposed to work.

Kepler, for example, after he had worked out his laws of planetary motion, shortly after 1600, still took it for granted that a special angel carries each planet round the sun. Old astronomies, discussing the new theory of a revolving earth, show an angel turning a crank at the north pole; and Milton, as late as 1667, could still write

"Some say he bid his angels turn askance
The poles of earth, twice ten degrees and more,
From the sun's axle; they with labour pushed
Oblique the centric globe."

But all this has gone by.

Naturally, then, the more such words as "soul," "spirit," "angel," or "Satan" appear in sermons and hymns, save when they are clearly seen to be only figures of speech, the more unreal does our religion tend to become. We find ourselves saddled with four or five words which once expressed living and important ideas. But these ideas are now dead. There are no angels or devils in our modern world. We do not really believe in either souls or spirits. The first pair we have frankly dropped. For the second, we have hunted up factitious meanings, making them suggest vaguely so much of the mind as is concerned, let us say, in reading the Bible. But nobody is giving any coherent account of how the soul or the spirit differs from the mind, or how each is related to the other or to the body. Neither word has, for us, anything of its immemorial meaning. So there we are with our religion resting on two figures of speech, a house built upon the sand.

Practically, then, we ought frankly to recognize that the only profitable significance now attachable to the old term "soul" is the somewhat technical psychological meaning, "self." What-

ever words we sing, what we really mean is always,

"Myself be on my guard,"

taking "soul" in the first line of the quatrain no more literally than "skies" in the last.

As for "spirit," a term whose connotation ranges all the way from "breath" to "disposition," and which denotes things so different as the second alcohol of the paraffin series and the Third Person of the Athanasian Trinity, lends itself much too easily to the bombardment of unfortified minds. The meaning in ancient texts is clear, and the word is useful. But when any modern person uses "spirit" or "spiritual," then look out for every sort of fallacy and equivocation!

CHAPTER IX

THE PROBLEM OF SURVIVAL

OUR belief in immortality rests primarily on our dreams.

The body, perhaps with various souls still in it, has lain asleep in cave or tent. Meanwhile, at least one of our souls has been off seeing the world. We know what the vagrant spirit has been doing. We have to ask concerning the body. Therefore, are we the one and not the other. Inevitably, then, most peoples have identified the self with the soul rather than with the body.

But if the soul can be away from the body between sleep and waking, if, moreover, the spiritual eye can see other men who have been dead for years, nothing can be clearer than that a "life" can go on living indefinitely. And since men can always imagine something a little better than they have yet experienced, and hope springs eternal in the human breast, mankind as a whole has always looked forward to a blessed hereafter. The soul, therefore, tends to be distinguished from the bodily life and to become the vehicle of immortality.

To this, however, there are numerous ex-

ceptions; one of which, inconveniently enough, happens to be the Hebrews of Old Testament times.

The Hebrews, as distinguished from the Jews, did not believe that the self is the soul or that the soul survives. In fact, it is pretty difficult to make out in just what sense the Old Testament worthies can be said to have believed in any sort of soul whatever. "There is," to be sure, "a breath in man, and the wind of the Almighty giveth him understanding." But, after days that are as grass, "shall the dust return unto the earth as it was, and the breath go back to God who gave it." "The hand of the Lord was upon me," says that extraordinary passage in Ezekiel, ". . . and set me down in the midst of the valley; and it was full of bones; . . . and lo, they were very dry. . . . So I prophesied as I was commanded . . . there was a thundering and . . . an earthquake, and the bones came together, bone to his bone . . . but there was no breath in them. . . . Then said he unto me, Prophesy unto the wind, . . . and say unto the wind, Thus saith the Lord God: Come from the four winds, O wind, and breathe upon these slain. . . . So I prophesied . . . and the breath came unto them and they lived, and stood up upon their feet, an exceeding great army." Clearly, the life is in the breath. But the breath comes close to being only ordinary wind — so far, that is to say, as,

for simple-minded men, any sort of wind is in any sense ordinary.

The soul of man, in other words, tends always more or less to identify itself with the atmosphere of the earth. The winds are the breath of God, or of several gods or giants, blowing from the borders of the world. But the earth's atmosphere is also the *Spiritus Mundi*; or at least it contains the Holy Spirit very much as "spirits of wine," evaporated into the air, are still discernible.

A living creature, therefore, draws its breath for the sake, in part, of extracting from the air those "vital spirits" which animate its body. The animal soul is a part of the World-Soul. The last of the animal spirits goes off with the last breath, virtually undistinguished from the dying soul. Even the great Harvey held substantially this view, making the animal heat ethereal like the bodies of the angels and the stars.

"Inspiration," then, for most of mankind, has meant literally a "breathing in" of the divine influence out of the air. Our own figurative meaning is entirely modern.

This general conception of an atmosphere filled with impalpable intelligences, of the wind as the breath of divinity, of an *Anima Mundi* present in the air, of spirit in men's breath, helps to make clear why the ancient world found it so

much easier than we do now to believe in virgin births.

Back of our precise modern knowledge of the way we living things actually do come about — which, after all, is no older than 1840 — lies that other and quite different theory which appears everywhere in Bible, creed, and all ancient documents of our civilization. Back of that, in turn, lies a still older and still more erroneous idea, the so-called "spirit theory."

Early man, pretty universally, seems to have taken it for granted that he has only one parent — of course, his mother. All offspring are wandering spirits of the air, frequently ancestral ghosts, sometimes, pathetically, the souls of dead brothers, often "spirit-children," newly created and waiting to be born. They lie in ambush for their mothers in the groves and among the rocks; and the girls who do not want babies, when they go by, pick up staves and hobble along, pretending to be old women. But those who desire children expose their bodies to the wind from sacred grottos, visit graves, or stand in the shadow of an idol. Most commonly, such being the way of spirits, the child-to-be gets into the mother's food or drink or the savor of the cooking meal; it falls on her back as a banana blossom; it lurks in the water and enters her body when she dips a foot. Serpents are a favorite vehicle, especially among the Greeks.

In the final stage of the decaying opinion, the spirit-child degenerates into a mere dream, like the six-tusked white elephant of Buddha's birth stories.

Naturally, the spirit-child has no concern to select a wife rather than a maid. Hence the belief, once well-nigh universal, in occasional virgin births. Primitively, in fact, all children are fatherless and all births virgin, if we use "virgin" in the extended and somewhat technical sense of "parthenogenetic." In Syria they still believe that a woman may bear children to a long dead husband, a departed saint, or a jinn.

It is, however, by no means impossible that in the more sophisticated accounts of virgin births there is still another element.

After civilized man has largely abandoned the idea of spirit-children, and has learned that human reproduction is, in general, biparental, he still tends to retain the theory that the child's mother provides its body, but its father its *vires formativæ* or soul. Thus Harvey, discussing the "efficient cause of the chick," is quite at loss as to "the manner how the cock and its seed doth mint and coine the chicken out of the egge." The Roman *genius* inhered in the *paterfamilias*, and passed on to his sons. The same general doctrine still survives in the vulgar error that children favor their mothers in looks, but their fathers in disposition.

But the "soul" which the father transmits to his offspring, is, after all, only his own *anima* which he himself obtains from the air. Thus, by a roundabout path, a portion of the divine spirit passes from the lungs of the living man into the growing tissues of his unborn child.

Great men, however, are not like common mortals. They have the divine spark in uncommon measure. They partake more fully than ordinary men of the nature of the gods. What more logical, then, than to suppose such beings without mortal fathers, taking the Spirit undiluted and at first hand? How else, indeed, can one account for eminence?

Thus, apparently, reasoned the ancient world, holding always to a consistent world-view. It is characteristic of our theology to preserve an idea as a dogma long after it has been forgotten as an opinion.

Just what is it, then, which, having lost its "breath," goes down into Sheol, no longer to praise the Lord, nor to have "any more a remembrance forever in anything that is done under the sun"? It is not quite the body, whose bones, at least, are known to be in the sepulcher. It is not the soul, because the Hebrew tongue recognizes only such media for the self as heart and breath, and has no word for self-conscious soul. The most that one can say is that the ancient Hebrews seem almost, but not quite, to identify

the personality with the body. So long as this has air in its lungs, it goes to and fro on the earth. Afterwards, it both lies in the grave, and goes down to the common grave of the righteous and the wicked in Sheol. "And shall they not," says Ezekiel, "lie with the mighty that are fallen, . . . which are gone down to hell with their weapons of war, and have laid their swords under their heads, and their iniquities are upon their bones." It all boils down to saying that the Old Testament writers, before Israel came under Persian influence, merely retained, quite uncritically, vague survivals of the general primitive belief in survival, and never really faced the problem at all.

Iran, in unknown antiquity, but apparently somewhere this side of Zarathushtra, attacked the old problem from a new side. The "life" goes, and we are dead. May not the life come back, and we live again?

On this line, the Persians developed an elaborate eschatology. There is no all-embracing Sheol. If the living man has in his day done conspicuously more evil than good, his soul, three days after death, drops down to hell. If the man has been conspicuously righteous, his soul makes its way to heaven, to sit on a throne in the presence of Ahura Mazda. Most of us will not do either. Our good deeds just about offset our bad ones, and the somewhat automatic judg-

ment of their balance will send our souls to rather a colorless limbo to await the general resurrection.

At the end of the age, the old heaven and the old earth will pass away. The Shaoshyant, of the seed of Zarathushtra, will come in the clouds to judge the earth. All souls, good, bad, and indifferent, will return to their former bodies, which have been preserved for them, bones in the ground, blood in the water, hair in the plants, life in the fire. The wicked will have expiated their sin; and hell will be annexed to the new earth, to make room for the generations of men. All mankind will then dwell in an earthly paradise for ever and ever.

Nobody seems to have made out whether the Jews borrowed this ancient set of ideas bodily during and after the exile; or whether, shortly before New Testament times, given the same problem and the same stage of civilization, they worked out a good deal the same conclusion on the basis of nothing more than a few hints. At any rate, this "messianic" eschatology is conspicuous enough in the earlier portions of the New Testament text; for nearly a century afterwards it had a considerable place in Christian doctrine; and it persisted up to about St. Augustine's day.

In fact, it seems never to have entirely died out, so that every once in a while it has revived. The end of the tenth Christian century was such a

time. So, too, is the present, as we get in sight of the end of our second millennium. Pastor Russell's "The Divine Plan of the Ages" circulates in twenty languages, five million copies in English alone. Islam, also, has always held close to the ancient Persian faith; while a modern Christian theologian has worked out a neat chemical theory, according to which all the dry solids of the body, after becoming CO_2, return to the general atmosphere, much as did the old "breath" when the body died. This, in time, is picked up by growing vegetation, and finally built into the wood of long-lived trees there to await the final judgment.

Materialism, however, whatever its form, has always a structural weakness; so that, even among so unphilosophical a people as the Jews, the original form of the resurrection theory began to break down, somewhere between the dates of Job and of the New Testament.

Among Jewish sectaries, the Pharisees especially were of the Zoroastrian opinion; while the more conservative Sadducees clung to the Old Testament doctrine that "there is no resurrection, neither angel nor spirit." There are hints in Daniel, there is clearly set forth in Baruch, a pre-Christian Pharisaic theory of the resurrection body that meets most of the more obvious difficulties of the older form.

All souls, according to Baruch, at the last

trump, will return to their original bodies, which, thereupon, will arise from their graves as restored personalities, to be recognized and greeted by their risen friends. Later, apparently more or less gradually, these "protoplasmic" bodies are to be altered into "pneumatic" bodies, still material, to be sure, but of a finer sort, and imperishable. Clothed in these spiritual bodies, the redeemed will inherit the Kingdom of Heaven.

Such, in brief, seems to have been a widely current Pharisaic opinion just before one of the greatest of the Pharisees took up the problem from a new angle.

St. Paul, as we sometimes forget, was brought up in Tarsus. And Tarsus was "no mean city," but very much in the current of affairs, well within the sphere of Greek ideas, and for a century the seat of two different mystery cults. The apostle, therefore, had the advantages of a pagan education. To this, very possibly, we owe in part the highly important step which St. Paul took — his theory that the transformation of the protoplasmic into the pneumatic body takes place in the grave itself.

In a way, therefore, this Pauline theory is a synthesis between the breath-soul-self group of primitive doctrines and the bodily resurrection theories of his own day. On the whole, however, in form at least, it belongs with the latter. The

immortal soul does not, as in the other case, fly away, leaving the body behind forever in the grave. On the contrary, the body, *qua* body, changing to spirit, disappears, leaving the grave empty. On the empty tomb, therefore, hinges the difference between St. Paul and, let us say, Socrates.

However, the apostle himself has said all this a great deal better than anybody else can say it for him. Only one must be careful to take the text just as it stands; and not try to read back into it any Christian ideas which are not there.

For the Christian world has, in this matter, not taken altogether kindly to St. Paul. The early church was essentially Roman — and the Romans, by no means a subtile people, preferred their doctrines tough and raw. So the "Apostles" of the Creed altered *egeiretai soma pneumatikon* to *carnis resurrectionem;* and even the Gospels, as their text now stands, seem to side with the cruder doctrine. The Westminster Confession has "all the dead shall be raised with the self-same bodies, and none other." The Thirty-Nine Articles read: ". . . and took again his body, with flesh, bones, and all things appertaining to the perfection of man's nature." All these documents, one hardly need point out, imply that the "*hospes, cornesque corporis*," as the Emperor Hadrian called it, is material. All picture crudely

some millions of graves popping open at once, and the dead stepping forth.

On the other hand, certain modern Spiritists, with their theory of an etheric body, come very close to the Pauline doctrine. According to Sir Oliver Lodge, among others, since all matter is only a state or function of the universal ether, the selfsame ether, which now manifests itself to eye and touch as our mortal protoplasm, may conceivably take on another and immortal form, without affecting in the least our self-conscious identity. It may even, conceivably, alter back and forth from body to spirit, or even, possibly, take on more than one "spiritual" form. Of course, the ether is itself hypothetical; and the Relativists threaten to banish it for good and all. Nevertheless, for the present, any general conception is not to be treated lightly, that has the support of two such thinkers as St. Paul and Sir Oliver.

Modern scholarly opinion tends, on the whole, to take the other horn of the ancient dilemma. Our present world-view rather looks away from any bodily resurrection, either as flesh or spirit, and toward the quite antithetical doctrine of an immortal, non-material mind.

To Socrates and to Plato belongs the merit of being the first of mankind to dissociate the conscious self from any taint of spirit. The mind, for Plato, is pure idea, altogether in a different

category from any sort of matter, however tenuous, and, therefore, by nature, preëxistent and indestructible. Whether this "mind-soul" ties up to various bodies successively, or to only one, is a matter of detail. Plato himself, like the great thinkers of the East who came still earlier to the same general view, happens to hold the former opinion. He chances, also, to believe in two souls, besides the philosophic mind.

For the modern Platonist, then, our self-consciousness is something essentially independent of any sort of body. For some unknown reason, we find it convenient to employ, for a few score years at a time, a certain very elaborate set of tools. But we are perfectly well able all the while to drop one set and pick up another, or, if occasion be, to get on just as well without any implements whatever. For such a person, therefore, resurrection of the flesh, conversion into spiritual bodies, the whole idea of souls and ghosts and shades and doubles and etheric bodies has no meaning. The mind simply loses interest in the body; and the body falls into decay.

After all, what do we moderns mean by immortality? Nothing at bottom more than this, that, after we are dead and buried, and the psycho-physical personality which our friends once knew no longer walks the earth as it did, some being, somewhere, will remember the oc-

currences of our lives as having happened to him. However much more this being may recall is quite beside the point. To Plato, largely, we owe this simplification of our problem.

In a very real sense, then, all our controversy for the last two and a half millenniums over the nature of man and the conditions of the future life reduces itself to the question whether our complete personality — since we can never be really interested in less — inheres in the mind alone, or whether it requires also some sort of body, or whether, in addition to both, there is some sort of *tertium quid* which we most commonly call the soul. In other words, is man a unity, or a duality, or a trinity?

The third opinion has, on the whole, prevailed in Christian Europe. We still speak of body, soul, and spirit, or of body, mind, and soul; and pre-scientific physiology, up to the beginning of the nineteenth century, made abundant use of these concepts.

In fact, the first Christian thinker to cut loose from all primitive ideas was the great Schoolman, Thomas Aquinas, hardly more than six hundred years ago. The "Summa" sets forth, in effect, our modern dualism. We are body and mind — and the mind is non-material.

St. Thomas still remains, for the majority of Christians, the supreme authority on all these questions; and we are all supposed to follow him.

How many of us actually do, whole-heartedly, is an interesting question. In any case, there is this to be said for the Tomasian doctrine; we do know a good deal directly about the human mind, and we do know the human body a great deal more in detail than we know any other material object. On the other hand, concerning souls, spirits, ghosts, shades, guardian angels, *kas*, *rans*, *fravashis*, *manes*, doubles, "old men," astral bodies, etheric bodies, vampires, ectoplasms, pneumatic bodies, "controls," and dæmons, our information is, for the present, in much less satisfactory shape. So far, then, as it is possible to account for the present and the future life in terms of body and mind only, the familiar Law of Parsimony is not without authority.

The present-day result of all these survivals is decidedly unfortunate; since we now find ourselves saddled with three different and incompatible psychologies, two learned, one popular, where two only would be ample.

Our scientific psychology presupposes an undivided psycho-physical personality, which acts always as a whole; so that all parts of our nature, body and mind alike, are involved in whatever we do consciously, and even trying to read Einstein is in part a muscular act. For all purposes of scientific description, man is a complete unity, to no part of which alone can any act be assigned.

Whatever happens, "we" do it. This psychology is, of course, "soulless." Persons who know little of the methods of science assume that it precludes survival. Sometimes they call it "materialism."

But for much of our philosophy the great gulf in the universe runs between "thoughts" and "things"; though it is by no means clear that our rigid distinction is not partly logical rather than real. A strictly philosophical psychology, therefore, marks off sharply the body from the mind, and puts them in such different worlds that any casual relation between them either way is quite inconceivable. This is substantially Plato's teaching. This also is, strictly, "soulless."

Finally, we have the popular "theological" psychology, which is a survival of the old body-mind-soul-spirit ideas of the Middle Ages. Soul and spirit are only vaguely distinguished. Neither seems to have much of anything to do in this world; but one or both is, apparently, to fly away to some sort of vaguely localized heaven, which in its turn is a survival from an astronomy of corresponding date. Persons who hold that this spirit-soul is to return to the body do not always get on comfortably with those who think it will not.

The results of all this confusion of opinion are distinctly unfortunate. One prominent clergy-

man insists, following Plato, that we shall say, "I am," not "I have," an immortal soul. Another computes that the State of Texas alone will contain the rehabilitated protoplasm of all the departed sons of men — since 4000 B.C. that is — allowing thirty square feet to each. To-day, we listen to an Easter sermon, based on a narrative which, apparently, presupposes a return of the soul to the body, a general resurrection, and a final judgment. To-morrow, if there is a death in the house, the same clergyman will console us with the diametrically opposite picture of a complete personality, *sans* judgment and *sans* body, already in paradise. Next day, he will change his mind once more, and read us the burial service with extracts from Job, for whom the entire problem is ultimately insoluble.

CHAPTER X

"THE NEW REFORMATION"

Once to every man and nation comes the moment to decide,
In the strife of Truth with Falsehood, for the good or evil side;
Some great cause, God's new Messiah, offering each the boon or blight,
Parts the goats upon the left hand, and the sheep upon the right,
And the choice goes by forever 'twixt that darkness and that light.

NOWHERE does history repeat itself more monotonously than in the field of religion. The world, like the individual, has its hours of insight, its lucky times, when everything drops into place and all the clocks strike twelve. Great ideas are in the air. Great leaders find followers to match. Civilization, somewhat suddenly, hitches forward to another age; and a revival of religion goes along with the rest.

The new religion, at the start, is fresh and young and absorptive. It may have no creed, no ritual, no hymns, no fixed ideas of any sort; or if it does inherit such from its own past, it holds them lightly and always subject to revision. It picks up anything, anywhere, and grows by what it feeds on. Therefore, do a new religion and a flowering of civilization commonly go together.

This period of all-devouring youth seldom lasts more than a couple of centuries. The new religion promptly develops a theology.

Now one of the great advantages which all science enjoys, compared with most other methods of arriving at truth, is that all its doctrines rest directly on evidence, and are always, therefore, even the most fundamental of them, under examination. As a matter of fact, indeed, natural science has almost never had to take back any of its main conclusions. But there is always the chance that a New Psychology or a New Physics may come up over the horizon ready to blow the old out of the water. All science, therefore, natural, historical, and political alike, though it stumble and stray, always in the end, and of itself, finds its feet again and comes back to the right path.

Not so is it with a theology. The shakiest hypothesis, once discovered in Bible or Koran, once passed upon by caliph, council, or pope, becomes forthwith a portion of the eternal verities, to be questioned only at both temporal and eternal peril. One by one, therefore, as time goes on, all the various paths to new information are blocked by dogmas. The prophet gives way to the priest. Whatever world-view chances to be the fashion of the day becomes the complete and final revelation of all truth.

Meanwhile, secular opinion may also have stood still, as it did in our own civilization for more than a thousand years. All is then well with the faith once delivered to the saints. Each gen-

eration finds itself in the same mental environment as its fathers.

On the other hand, the world may move — as ours did after 1600. Naturally, then, in the course of time, the ancient faith will consist largely of outgrown world-views, discarded terminologies, slogans of long-forgotten controversies, forms of words which, however fresh and living once, have now become mere cant.

Priest and scholar, therefore, have to fight things out between them. The scholar argues his case on the evidence. The priest retorts with the customary persecution. In the end, commonly, the man in the street takes a hand to see fair play, and the scholar wins.

If the points at issue are not especially fundamental, the old system adjusts itself grudgingly to the new opinion. From time to time, always under compulsion, it drops a little of its impedimenta and staggers forward a few steps more. Then, for a short while, the old religion seems to recover a little of its youthful power of assimilation; but the growth is likely to be rather that of a lifeless crystal than that of a living plant. But if the difference of world-view is irreconcilable, then the old superstition has to go. The repeated adjustments and the final collapse of the primitive Roman paganism, shortly before the Christian era, are perhaps the most striking instances in history of both these processes.

When an established religion does finally go to smash, all the newer religions in the field, all the importations from other lands, all the newer sects of the old cult, struggle for the vacant place. Nominally, the fittest of these survives. Actually, the one of them which gets the best start absorbs the rest, retains the best in each and discards the remainder. No historic faith, then, is ever the child of one other only. All efficient religions have been syncretic.

Our current Protestant fiction has it that our own religion rests on the Old Testament. As a matter of historical fact, it is, as to doctrines, a synthesis of about equal parts of Pharisaism, Stoicism, Neo-Platonism, and the common element in all the mystery cults. Even the earlier Fathers of the Church were not Jews. They were for the most part heathen, converted in middle life, after their ideas had set. Augustine, though anything but early, was a Manichæan at thirty. None of these ever gave up his philosophy. He simply added on his Christain faith, and fused the two. Our traditional picture of the conversion of the Roman Empire, which shows the persecutions in detail but stops the film conveniently with Constantine's discovery of the side on which his bread was buttered, has small likeness to what actually occurred.

After all, why should the Platonizing Fathers give up either their old philosophies or their old

religions? Stoicism, Neo-Platonism, and Mithraism embodied the best thinking and the highest aspiration of their day. That the Christian Church, in the end, skimmed the cream off all three, simply puts us so much to the good.

The early churchman, then, preserved all that was sound and permanent in Judaism, but without the less weighty matters of its Law. He lifted bodily Isis and the infant Horus for his Madonnas, and Mithra's birthday for his Christmas. He adopted the Stoic *Logos*, and much of the Stoic ethic. His Trinity came out of Alexandria. In general, like Old 'Omer,

> . . . what he thought 'e might require,
> 'E went and took . . ."

like the philosopher he was. Naturally, a religion that includes the best that has been thought and done in four great civilizations ought properly to inherit the earth.

But this "period of infancy" for the Church lasted only a little more than a single century. After the Platonizing Fathers came the Dogmatic Fathers; and by Augustine's day, Christianity had grown up. There is less difference in outlook and vocabulary between Augustine and Calvin than between "Mark" and "John."

To be sure, the Church has learned its lessons, especially during the last hundred years, but always as an old man learns. Only once, in the

sixteenth century, did it become, for the moment, as a little child.

But the Protestant Reformation came almost two hundred years too soon. It belongs, therefore, to the late Middle Ages, instead of to the early modern period, and so is on the wrong side of the great gulf that separates the darkness from the light. The practical result is, that, while the Reformation did clean up a few obvious abuses, it left the entire sub-structure of mediæval thinking untouched. Luther threw his inkstand at the Devil, the Calvinists required their pastors to confess the finger of God in every vowel point of the Masoretic text. Only a few of our Protestant clergy have even yet fully the layman's *Weltanschauung*.

If those famous theses could have gone onto the door of Wittenberg Cathedral at about the time, let us say, that Halley was figuring the orbit of his equally famous comet, the situation in the religious world might be very different to-day. The dogmatic mind was then, for the moment, loosened up. The theological world might then have really assimilated the new science and the new philosophy, and given us some sort of consistent world-view that should include everything. There might even have been some such fundamental upheaval, some such permanent rearrangement of ideas, as marked the second Christian century. At the very least, something

of the new learning might have penetrated into the old theology without such great personal inconvenience to each modernizing scholar and to the ecclesiastical persons who first took on each new idea.

But as it was, the Church and the world failed to synchronize. The Protestant Reformation proved only a false dawn, and the whole job has to be done over again from the bottom. The only question now is, whether the second reformation, unpleasant as it will undoubtedly be, shall be got through with now, or wait till by and by — when it may be too late.

So now there are two parties within the Christian Church, Roman and Protestant alike. One of these hopes, by tightening the bonds of discipline, by censoring more rigidly the instruction of youth, by calling in on occasion the secular arm, still to keep the Christian world blind to everything that the Middle Ages had not seen. The other is trying to live up to the time-honored formula of diplomacy: When in doubt, tell the truth. And because this is certainly an age of doubt, it proposes that we shall be taught frankly all that the learned world now knows. The first course of medicine is unquestionably easier for the doctor, and probably pleasanter for the patient. Unfortunately, in like crises thus far in the course of history, the method has not worked.

And yet, as things are, most of us cannot be quite whole-heartedly either "Fundamentalists" or "Modernists."

> "Old things need not be therefore true,
> O brother men, nor yet the new."

We average laymen want both the old faith and the new sight. But we want a real synthesis between them; not any mere verbal compromise.

If this were the sixth century B.C., or the first century A.D., or any one of various periods in history which it is not, we might hope for some great prophet to arise to lead us out of our present wilderness. Unfortunately, this sort of miracle no longer happens. Our prophets are mostly false, and paranoids besides. So, as things are nowadays, we shall have to look to the general drift of democratic opinion, led by a considerable number of open-minded persons, no one of whom alone will do very much toward putting the old wine into the new bottles. Any one of us, in fact, who cares to do so, may at least not hinder the transfer.

The group which, in particular, is to take the lead can hardly be conspicuously lay. We laymen are somewhat too busy, and a great deal too ignorant. Neither will it, apparently, contain any large proportion of the working clergy. They also are too busy — and a priest is always a priest. There remain, then, only the scholars

of the theological schools. They only have the learning, the insight, and the leisure. Besides, it was they, largely, who brought us to our present pass; it is for them to get us out.

I have already said that, as things now are, no wise man will ever allow himself to accept as "science" any utterance of any magazine or newspaper or of any irresponsible individual, but only such facts and opinions as carry the hallmark of the universities. The rule is even more imperative in the field of divinity. These United States are over-full, just now, with teachers of silly religions and false prophets of wiser ones, precisely as the Roman world was two millenniums ago. Doubtless, in the end, matters will straighten out, as they did before; and we shall all come to a common understanding of our world and our duty in it. But, meanwhile, there is no better service that we of shop and office can render to the religion of the future than to make ourselves acquainted at first hand with what is actually taught in the leading seminaries of the country, and accept this as the basis of our own thinking. Amidst contemporary oratory, there is nothing that the wayfaring man can better trust than the general consensus of the learned and pious experts of the theological faculties. In the never-ending, three-cornered struggle among priest, prophet, and scholar, we outsiders, just now, will most wisely back the scholar.

If we do this, whole-heartedly, we ought to be ready for any event. After all, as Huxley once remarked, "We don't any of us know much about the universe." And the more one does know, the less inclined is he to say that Plato or Kant or Sir Oliver Lodge or Mrs. Eddy or anybody else is wrong. If, therefore, holy men of old, saints and martyrs and prophets and philosophers, have seemed to see farther into realities than the rest of us can do, I, for one, see no reason for treating them any differently from the poets, artists, musicians, and men of science, who certainly do see and hear a great deal to which I am blind and deaf. Speaking as a naturalist, I am prepared to believe anything of a universe that contains a blade of grass.

But come what may, we have always "the starry heavens above us and the moral law within," the Ninth Symphony, the Taj Mahal, the "Principia," and the discourses in "Q."

THE END